

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0086

NPDES NO. CA0078875

WASTE DISCHARGE REQUIREMENTS
FOR

CALIFORNIA DEPARTMENT OF GENERAL SERVICES
OFFICE OF STATE PUBLISHING
SACRAMENTO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

BACKGROUND

1. The California Department of General Services (hereafter Discharger) submitted a Report of Waste Discharge, dated 12 September 2002, and applied for a permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Office of State Publishing facility. Supplemental information to complete filing of the application was submitted on 26 September 2003.
2. The Discharger owns and operates a publishing facility that provides printing and communications services to State, Federal, and City agencies. The facility is in projected Section 25, T9N, R4E, MDB&M, as shown on Attachment A, a part of this Order. Approximately a monthly average flow of 1.3 million gallons per day (mgd) of non-contact cooling water is discharged to the American River (a water of the United States) through Outfall 001 at the point(s), latitude 38°N, 36', 10" (deg, min, sec) and longitude 121°W, 29', 00" (deg, min, sec).
3. Well water is used as a cooling medium for heat exchange coils for air conditioning units located on the roof of the facility, as shown on Attachment B, a part of this Order. These air conditioning units provide cooling for personnel and are not used for any publishing processes or equipment cooling. The facility only pumps well water when the air conditioning system is operational (typically from April through October). The well water flows through a sand filtration system prior to being used in the air conditioning cooling system. The non-contact cooling water mixes with on-site stormwater runoff during the rainy season prior to being discharged through a dedicated pipe to the American River.
4. No chemical additives, including corrosion inhibitors, biocides, or anti-scaling agents, are used in the cooling water. The addition of chemicals to the cooling water would constitute a change in the character of the wastestream and would require submittal of a Report of Waste Discharge with possible modification of this Order.

5. The Report of Waste Discharge, and effluent monitoring data from July 1998 through September 2003 describes the facility discharge as follows:

<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>
Flow:	million gallons per day	1.3	2.3
	(mgd)		
Ammonia as N	mg/L	0.30	0.36
Chlorinated Hydrocarbons	µg/L	0.81	1.19
Arsenic	µg/L	7.0	15
Barium	µg/L	170	200
Electrical Conductivity @ 25°C	µmhos/cm	446	540
Cadmium	µg/L	0.72	1.2
Chloride	mg/L	16	18
Chromium, Total	µg/L		2.6
Copper	µg/L	6.8	9.7
Fluoride	µg/L	300	550
Iron	µg/L		210
Lead	µg/L		0.53
Nickel	µg/L	30	47
Selenium	µg/L	1.9	7.2
1,2 Dichloroethane	µg/L	0.19	0.51
Bis (2-ethylhexyl) phthalate	µg/L		3.7dnq
Cis-1,2-dichloroethene	µg/L		0.55
Diethyl Phthalate	µg/L		2
Delta hexachlorocyclohexane	µg/L		0.026
Endrin Aldehyde	µg/L		0.019
Mercury	µg/L	0.0064	0.02
Temperature	°F	63.5	71.7
Manganese	µg/L		820
pH	standard units	7.6	8.4
Sulfate	mg/L		120
Tributyltin	µg/L		0.056
Total Dissolved Solids	mg/L		320
Zinc	µg/L		10

6. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.
7. The United States Environmental Protection Agency (USEPA) adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001.

These Rules contain water quality standards applicable to this discharge. The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP) on 2 March 2000, which contains policies and procedures for implementation of the NTR and the CTR, and became effective on 22 May 2000.

8. The USEPA and the Regional Board have classified this discharge as a minor discharge.

BENEFICIAL USES OF THE RECEIVING STREAM

9. The beneficial uses of the American River from Folsom Dam to the Sacramento River as identified in Table II-1 of the Basin Plan are municipal and domestic supply (MUN), agricultural irrigation (AGR), industrial service supply (IND), industrial power supply (POW), water contact recreation (REC-1), canoeing and rafting, other non-contact water recreation (REC-2), warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD), warm fish migration habitat, cold fish migration habitat (MIGR), warm spawning habitat, cold spawning habitat (SPWN), and wildlife habitat (WILD).
10. The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*" and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.
11. The federal Clean Water Act (CWA), Section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the Clean Water Act, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR Sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR Section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.
12. Section IV-23 of the Basin Plan states: "Water bodies for which the Regional Water Board has held that the direct discharge of wastes is inappropriate as a permanent disposal method include sloughs and streams with intermittent flow or limited dilution capacity. The direct discharge of municipal and industrial wastes (excluding storm water discharges) into the following specific water bodies has been prohibited, as noted: American River, including Lake Natomas (from Folsom Dam to mouth)..." As stated previously, the effluent from the Discharger consists of

non-contact cooling water and stormwater, which the Regional Board has historically allowed at this location, as evidenced by Order Nos. 98-066, 92-118, 87-041, and 81-017. Therefore, it is reasonable to interpret that the Basin Plan prohibition does not apply to this discharge. No portion of the wastewater is associated with industrial activity and consists solely of non-contact cooling water and stormwater runoff.

13. CWA Section 303(d) addresses waters that have not attained the CWA national goal of “fishable, swimmable” by requiring states to identify these impaired water bodies and develop total maximum daily loads (TMDLs) for them, with oversight from USEPA. A TMDL is a quantitative assessment of water quality problems, contributing sources, and load reductions or control actions needed to restore and protect bodies of water.
14. The stretch of the American River from the Nimbus Dam to its confluence with the Sacramento River (American River) is listed as an impaired water body pursuant to Section 303(d) of the CWA. The list of pollutants for which American River is impaired appears on a list (the “California 303(d) List”), which was updated in 2002 and approved by the State Board in February 2003. The pollutants identified on the California 303(d) List as impairing American River are mercury and unknown toxicity. Resource extraction was the potential source for the mercury listing. Based on monitoring studies conducted by the Discharger, mercury was found in detectable concentrations in the facility’s effluent and in the receiving waters but not in concentrations that resulted in the finding of reasonable potential.
15. The Regional Board plans to adopt Total Maximum Daily Loads (TMDLs) for mercury in the American River. The priority assigned to this TMDL is low and a schedule for its completion has not been developed. Mercury is a bioaccumulative priority pollutant. Section 2.1.1 of the SIP recommends the Regional Board consider whether mass loading of the bioaccumulative pollutant should be limited to representative, current levels pending TMDL development in order to implement the applicable water quality standard. Until the TMDL is completed and water quality based effluent limits are prescribed, an interim, performance based, annual mass-loading limit will be prescribed.

Mercury was detected in four effluent samples collected by the Discharger. Four sampling points of mercury is insufficient to determine the annual interim mass effluent limitation, therefore this permit does not contain an interim performance-based effluent mass limit for mercury until additional data are obtained. **Provision E.2** of this Order requires the Discharger to conduct one-year of monthly monitoring for mercury in the effluent, using a “clean technique” USEPA Method 1631, with monthly mass loadings being calculated for each calendar month. This permit will be reopened to establish an interim effluent mass-based limitation for mercury pending the results of the monitoring study. A final effluent limit for mercury will be determined from an approved TMDL.

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

16. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
17. The federal Clean Water Act (CWA) mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law. (33 U.S.C., § 1311(b)(1)(C); 40 C.F.R., § 122.44(d)(1)) NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that *“are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.”* Federal Regulations, 40 CFR, Section 122.44(d)(1)(vi), further provide that *“[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”*
18. The Regional Board’s Basin Plan, page IV-17.00, contains an implementation policy (“Policy for Application of Water Quality Objectives”) that specifies that the Regional Board *“will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.”* This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Board must establish effluent limitations using one or more of three specified sources, including USEPA’s published ambient water quality criteria, a proposed state criterion (*i.e.*, water quality objective), or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Board’s “Policy for Application of Water Quality Objectives”)(40 C.F.R. 122.44(d)(1) (vi) (A), (B) or (C)). The Basin Plan contains a narrative toxicity objective requiring that: *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life”*. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The beneficial uses include municipal and domestic supply, agricultural irrigation, industrial service supply, industrial power supply, water contact recreation, canoeing and rafting, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, cold spawning habitat, and wildlife habitat. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as MUN, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant

Levels (MCLs) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Board may apply limits more stringent than MCLs. When a reasonable potential exists for exceeding a narrative objective, Federal Regulations mandate numerical effluent limitations and the Basin Plan narrative criteria clearly establish a procedure for translating the narrative objectives into numerical effluent limitations.

19. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Attachment C summarizes maximum effluent concentrations (MECs) and includes CTR aquatic life and human health criteria and Basin Plan objectives for each priority pollutant and other pollutants of concern. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for **arsenic, barium, bis (2-ethylhexyl) phthalate, cadmium, copper, 1,2 dichloroethane, fluoride, iron, lead, manganese, nickel, organochlorine pesticides, pH, selenium, sulfate, temperature, total dissolved solids, and tributyltin**. Effluent limitations for these constituents are included in this Order.

PRIORITY POLLUTANTS

20. **Arsenic**—The Basin Plan includes a narrative chemical constituents water quality objective that states, “*waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses*” and also includes a numeric site specific Basin Plan objective for arsenic. Municipal and domestic supply is a beneficial use of the receiving stream. The USEPA Primary Maximum Contaminant Level (MCL) for arsenic is 10 µg/l. Pursuant to the Safe Drinking Water Act, the Department of Health Services (DHS) must revise the arsenic MCL in Title 22 CCR to be as low or lower than the USEPA MCL. Applying the Basin Plan’s “Policy for Application of Water Quality Objectives”, to protect future municipal and domestic water use, it is reasonable to apply the USEPA MCL for arsenic to the receiving stream. The site-specific Basin Plan objective (Table III-1) for the American River from Folsom Dam to the Sacramento River is also set at 10 µg/l, but as dissolved concentration, however, since the default conversion factor is 1, then it also translates into a total recoverable concentration of 10 µg/l. The maximum observed effluent arsenic concentration was 15 µg/l, which exceeded the site specific Basin Plan objective and the USEPA Primary MCL, therefore, there is a reasonable potential that the discharge will cause or contribute to an excursion of the Basin Plan chemical constituents objective and site specific objective. Since downstream of the discharge point, approximately 1.5 miles, an all year round drinking water intake exists, assimilative capacity of the receiving water will be based on the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) Public Health Goal (PHG) value of 0.0040 µg/l to be in compliance with the Basin Plan Narrative Toxicity Objective and be protective of the immediate MUN use. The maximum observed upstream receiving water arsenic concentration was 0.78 µg/l, which exceeds the OEHHA PHG value, thus the American River does not have any assimilative capacity for arsenic, and the applicable water quality objective (Basin Plan site specific objective) must be

met at the discharge point. An Effluent Limitation for arsenic is included in this Order and is based on the Basin Plan site specific water quality objective, and is established as 10 µg/l as a daily maximum. Based on the data available, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. However, as the site specific Basin Plan objective is not a new objective, a schedule of compliance for arsenic is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the arsenic effluent limitation.

21. ***Bis(2-ethylhexyl) phthalate-*** Data provided by the Discharger indicate that bis(2-ethylhexyl)phthalate was detected at an estimated effluent concentration of 3.7 µg/l (reported as DNQ-detected but not quantified or J Flag or EST-estimated). The Method Detection Limit (MDL) for bis(2-ethylhexyl)phthalate is reported at 2.0 µg/l. USEPA human health CTR criteria for bis(2-ethylhexyl)phthalate are 1.8 µg/l (for waters from which both water and aquatic organisms are consumed) and 5.9 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The estimated concentration and the MDL for bis(2-ethylhexyl)phthalate exceed human health CTR criterion for waters from which both water and aquatic organisms are consumed. Therefore, since the MDL is greater than the most stringent water quality criteria and because the constituent was estimated to be detected in the discharge above the MDL, the discharge from the facility may have a reasonable potential to cause or contribute to an exceedance of human health CTR criteria for bis(2-ethylhexyl)phthalate of 1.8 µg/l. Bis(2-ethylhexyl)phthalate was not detected (<5 µg/l) in any of the 4 upstream receiving water samples taken in 2002. Therefore, it appears that the American River may have some assimilative capacity for discharge of bis(2-ethylhexyl)phthalate. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for bis(2-ethylhexyl)phthalate. However, until dilution credits can be considered the effluent limitations will be established at the point of discharge. Effluent Limitations for bis(2-ethylhexyl)phthalate are included in this Order and are based on human health CTR criteria and are established as 1.8 µg/l as a monthly average and 3.6 µg/l as a daily maximum. Based on the data submitted (1 out of 4 samples had a DNQ concentration that exceeded both limitations), it appears the Discharger cannot consistently comply with these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. **Provision E4** of this permit requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final bis(2-ethylhexyl)phthalate effluent limits. The new water quality based effluent limitations for bis(2-ethylhexyl)phthalate become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.
22. ***Cadmium-*** Cadmium can be toxic to aquatic organisms. For cadmium, the USEPA freshwater aquatic life CTR criteria are hardness-dependent and are represented in tabular or graphic form, or by equations. As the hardness concentrations decrease, cadmium toxicity to aquatic life

increases. Effluent data provided by the Discharger indicate that cadmium was detected in each of the four effluent samples at a maximum concentration of 1.2 µg/L. At a receiving water hardness of 22 mg/L, the CTR aquatic chronic criterion is 0.75 µg/L, and the CTR aquatic acute criterion is 0.82 µg/L. The maximum detected concentration of cadmium in the effluent exceeds both chronic and acute CTR criteria. The maximum observed upstream receiving water cadmium concentration was 0.081 µg/l. Dilution credits and mixing zones could be considered for compliance with CTR human health and/or aquatic life chronic criteria, but no dilution is allowed for compliance with the CTR aquatic life acute criterion. Therefore, CTR water quality criteria must be met at the discharge point. Based on this information, cadmium is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. Effluent Limitations for cadmium are included in this Order and are based on the freshwater aquatic life CTR criteria and are established as 0.41 µg/L as a monthly average and 0.82 µg/L as a daily maximum. Based on the data submitted (1 out of 4 samples exceeded the daily limit and all 4 exceeded the monthly average limit), it appears the Discharger cannot consistently comply with these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. **Provision E4** of this permit requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final cadmium effluent limits. The new water quality based effluent limitations for cadmium become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

23. **Copper**—Effluent data provided by the Discharger indicate that copper was detected in all four samples at a maximum concentration of 9.7 µg/l. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. Freshwater aquatic habitat is a beneficial use of the receiving water. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for copper in freshwater are 0.960 for both the acute and the chronic criteria. Using the worst-case (lowest of receiving water and effluent) measured hardness of 22 mg/l, the corresponding criteria are 3.4 µg/l and 2.6 µg/l for the acute and chronic criteria, respectively. The Basin Plan includes a site specific receiving water objective for dissolved copper of 10 µg/l (independent of hardness), which translates to a total recoverable concentration of 10.4 µg/l (using the default USEPA conversion factor of 0.96). Detected concentrations of copper in the effluent exceed CTR criteria. The maximum observed upstream receiving water copper concentration was 3.0 µg/l. Both the effluent and receiving water concentrations have exceeded the chronic criterion; therefore, there is no assimilative capacity for copper and the CTR criteria must be met at the point of discharge. The Effluent Limitations for copper included in this Order are presented in total concentrations, and are based on CTR criteria for the protection of freshwater aquatic life and are established as 1.7 µg/l as a monthly average and 3.4 µg/l as a daily maximum. Based on the data submitted (4 out of 4 samples exceed both limitations), it appears the Discharger cannot consistently comply with these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in

the permit. **Provision E4** of this permit requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final copper effluent limits. The new water quality based effluent limitations for copper become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

24. **1,2 Dichloroethane-** Effluent data provided by the Discharger indicate that 1,2-dichloroethane was detected at a maximum effluent concentration of 0.51 µg/L. USEPA human health CTR criteria for 1,2-dichloroethane are 0.38 µg/L (for waters that are sources of drinking water) and 99 µg/L (for waters that are not sources of drinking water but from which aquatic organisms may be consumed) as a 30-day average. The maximum detected concentration of 1,2-dichloroethane exceeds the CTR criterion for waters that are sources of drinking water. The discharge from this facility has a reasonable potential to cause an exceedance of applicable water quality standards. The maximum observed upstream receiving water concentration was 0.52 µg/l. Both the effluent and receiving water concentrations have exceeded the CTR human health criterion; therefore, there is no assimilative capacity for 1,2 dichloroethane and the CTR criteria must be met at the point of discharge. Effluent Limitations for 1,2-dichloroethane are included in this Order and are based on the human health CTR criteria and are established as 0.38 µg/L as a monthly average and 0.76 µg/L as a daily maximum. Based on the data submitted (1 out of 4 samples exceeded the monthly average limitation), it appears the Discharger cannot consistently comply with the limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. **Provision E4** of this permit requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final 1,2-dichloroethane effluent limits. The new water quality based effluent limitations for 1,2-dichloroethane become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.
25. **Lead**— Effluent data provided by the Discharger indicate that lead was detected in one of four samples at a maximum concentration of 0.53 µg/l. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for lead. Freshwater aquatic habitat is a beneficial use of the receiving water. The criteria for lead are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. Using the worst-case (lowest of receiving water and effluent) measured hardness of 22 mg/l, the corresponding criteria are 11.9 µg/l and 0.5 µg/l for the acute and chronic criteria, respectively. The maximum observed effluent lead concentration of 0.53 µg/l exceeds the chronic criterion. Based on this information, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for lead. Lead was not detected (<0.25 µg/L) in any of the 4 upstream receiving water samples taken in 2002. Therefore, it appears that the American River may have some assimilative capacity for discharge of lead. Dilution credits and mixing zones could be considered for compliance with human

health and/or aquatic life chronic criteria. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for lead. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. The Effluent Limitations for lead included in this Order are based on CTR criteria for the protection of freshwater aquatic life and are established as 0.41 µg/l as a monthly average and 0.82 µg/l as a daily maximum. Based on the data submitted (1 single detection out of 4 samples taken exceeded the monthly average limitation), it appears the Discharger cannot consistently comply with the monthly average limitation. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. **Provision E4** of this permit requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan (which can include dilution credits/mixing zone analysis) and implementation schedule to assure compliance with final lead effluent limits. The new water quality based effluent limitations for lead become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

26. **Nickel-** Effluent data provided by the Discharger indicate that nickel was detected in each of the four effluent samples at a maximum concentration of 47 µg/L. The freshwater aquatic life CTR criteria for nickel are hardness-dependent and are represented in tabular or graphic form, or by equations. As the hardness concentrations decrease, nickel toxicity to aquatic life increases. The nickel criteria are presented as both chronic or continuous concentrations (4-Day Average) and acute or maximum concentrations (1-Hour Average). Both acute and chronic criteria expressed as dissolved concentrations may be converted into total recoverable concentrations with conversion factors. The acute conversion factor for nickel is 0.998 and the chronic conversion factor for nickel is 0.997.

With a hardness of 22 mg/l, the freshwater aquatic life criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) for nickel are calculated at 14.5 µg/L and 130.3 µg/L, respectively. Detected concentrations of nickel exceed the CTR chronic criterion. Based on this information, nickel is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. The maximum observed upstream receiving water nickel concentration was 8.3 µg/l, which is less than the applicable CTR chronic criterion. Therefore, it appears that the American River may have some assimilative capacity for discharge of nickel. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for nickel. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. Effluent Limitations for nickel are included in this Order and are based on the freshwater aquatic life CTR criteria and are established as 12 µg/L as a monthly average and 24 µg/L as a daily maximum. Based on the data submitted (3 out of 4 samples exceeded both limitations), it appears the Discharger cannot consistently comply with

these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. **Provision E4** of this permit requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final nickel effluent limits. The new water quality based effluent limitations for nickel become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

27. **Organochlorine pesticides-** Data provided by the Discharger indicate that organochlorine pesticides (OPs), delta-BHC and endrin aldehyde, were detected in the effluent at a maximum effluent concentration of 0.026 µg/L and 0.019 µg/L, respectively. In addition, OPs alpha-BHC, gamma-BHC, delta-BHC, and heptachlor were detected in the American River at concentrations of 0.01 µg/L, 0.053 µg/L, 0.022 µg/L, and 0.031 µg/L respectively. The Basin Plan includes a water quality objective for pesticides on page III-6.0, which states: “No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses” and that “Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer”. Human health CTR criteria for endrin aldehyde are 0.76 µg/l (for waters from which both water and aquatic organisms are consumed) and 0.81 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The National Academy of Sciences (NAS) established a Suggested No-Adverse-Response Level (SNARLs) of 500 µg/l (for exposure of 7 days or less) for delta-BHC.

The Basin Plan objective of non-detect is more restrictive than CTR water quality standards for organochlorine pesticides. The CTR states that CTR standards apply unless the State’s criteria are more restrictive. The presence of delta-BHC and endrin aldehyde in the effluent indicates that the discharge has a reasonable potential to cause or contribute to an exceedance of Basin Plan objectives for organochlorine pesticides. Furthermore, the detection of some OPs in the receiving water are indicative that the American River does not provide any assimilative capacity for OPs, and therefore, the Basin Plan objective for OPs must be met at the point of discharge. This Order includes an Effluent Limitation for organochlorine pesticides based on the Basin Plan objective and is established as non-detect as a daily maximum. Because the Basin Plan objective for OPs clearly states that at no time the OPs concentration be detectable, it is not practical to have a weekly or 30-day average limit or non-detect and therefore a daily maximum limit is the appropriate limitation for OPs. Based on the OPs detections in the effluent and receiving water, it appears the Discharger cannot consistently comply with the OPs limitation. As the Basin Plan OPs objective is not a new objective a schedule of compliance for organochlorine pesticides is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the organochlorine pesticides effluent limitation.

28. **Selenium-** Effluent data provided by the Discharger indicate that selenium was detected in one of four samples at a concentration of 7.2 µg/L. USEPA freshwater aquatic life CTR criteria continuous concentration (four-day average-chronic criterion) and maximum concentration (one-

hour average-acute criterion) for selenium are 5 µg/l and 20 µg/l, respectively. The maximum detected concentration of selenium exceeds the CTR chronic criterion. Based on this information, selenium is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. The maximum observed upstream receiving water selenium concentration was 2.4 µg/l, which is less than the applicable CTR chronic criterion. Therefore, it appears that the American River may have some assimilative capacity for discharge of selenium. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria.

Provision E5 allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for selenium. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. Effluent Limitations for selenium are included in this Order and are based on the freshwater aquatic life CTR criteria and are established as 4.1 µg/L as a monthly average and 8.2 µg/L as a daily maximum. Based on the data submitted (1 out of 4 samples exceeded the monthly average limitation), it appears the Discharger cannot consistently comply with the limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. **Provision E4** of this permit requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final selenium effluent limits. The new water quality based effluent limitations for selenium become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

NON PRIORITY POLLUTANTS

29. **Barium-** Barium was detected in each of the four effluent samples at concentrations ranging from 150 µg/L to 200 µg/L. Using the methodology in the USEPA's Technical Support Document (TSD) for Water Quality-Based Toxics Control the projected Maximum Effluent Concentration (MEC) of barium is calculated at 940 µg/L. The Basin Plan chemical constituents objective (site specific objective) for portions of the American River from Folsom Dam to the Sacramento River is 100 µg/L. Both, the MEC and projected MEC of barium exceed the Basin Plan chemical constituents site specific objective; therefore, there is a reasonable potential that the discharge may cause or contribute to an excursion of the Basin Plan chemical constituents objective for barium. Municipal and domestic water supply is designated as a beneficial use of the American River. The maximum observed upstream receiving water barium concentration was a DNQ result of 13.4 µg/l, which is less than the applicable Basin Plan site specific objective. Therefore, it appears that the American River may have some assimilative capacity for discharge of barium. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for barium. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. Therefore, to protect the municipal and domestic water supply beneficial use, this Order contains an effluent limitation for

barium based on the Basin Plan chemical constituents site specific objective and is established as 100 µg/L as a daily maximum. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. However, as the Basin Plan site specific objective is not a new objective, a schedule of compliance for barium is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the barium effluent limitation.

30. **Fluoride-** The Basin Plan states that “Waters shall not contain constituents in concentrations that adversely affect beneficial uses.” Based on information included in analytical laboratory reports submitted by the Discharger, fluoride in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Agricultural Goal of 1000 µg/L. The maximum observed fluoride concentration was 550 µg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of fluoride in the effluent is calculated to be 2585 µg/L. Based on the projected MEC, the Regional Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for fluoride in the American River. The maximum observed upstream receiving water fluoride concentration was a DNQ result of 74 µg/l, which is less than the applicable Basin Plan chemical constituents objective (agricultural water quality goal). Therefore, it appears that the American River may have some assimilative capacity for discharge of fluoride. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria or other long term impact objectives. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for fluoride. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. An Effluent Limitation for fluoride is included in this Order and is based on the Basin Plan water quality objectives (agricultural goal) for chemical constituents and is established as 1000 µg/l as a monthly average. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. However, as the Basin Plan chemical constituent objective is not a new objective a schedule of compliance for fluoride is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the fluoride effluent limitation.
31. **Iron**—The Basin Plan includes a water quality objective that states in part, “...*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations...Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449.*” Municipal and domestic supply is a beneficial use of the American River. The Secondary Maximum Contaminant Level (MCL)- for iron is 300 µg/l as total recoverable. The Basin Plan also includes a site specific receiving water objective for iron of 300 µg/l expressed as dissolved, which converts to 300 µg/l as total recoverable, assuming a translator of 1 since no other site specific translator has been developed. Since this is a site specific objective, this is the applicable standard. The maximum observed effluent iron concentration was 210 µg/l. Using the TSD for Water Quality-Based Toxics

Control the projected Maximum Effluent Concentration (MEC) of iron is calculated at 987 µg/L. The maximum observed upstream receiving water iron concentration was a DNQ result of 67 µg/l, which is less than the applicable Basin Plan site specific objective. Therefore, it appears that the American River may have some assimilative capacity for discharge of iron. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for iron. Until dilution credits can be considered the effluent limitation will be established at the point of discharge. An Effluent Limitation for iron is included in this Order and is based on the site specific Basin Plan water quality objective and is established as 300 µg/l as a daily maximum. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. However, as the site specific Basin Plan objective is not a new objective a schedule of compliance for iron is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the iron effluent limitation.

32. ***Manganese-*** Manganese was detected in each of the four effluent samples at concentrations ranging from 320 to 820 µg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of manganese is calculated at 3854 µg/L. USEPA and the California DHS established a secondary MCL of 50 µg/L for manganese. The Basin Plan also includes a site specific receiving water objective for manganese of 50 µg/l expressed as dissolved, which converts to 50 µg/l as total recoverable, assuming a translator of 1 since no other site specific translator has been developed. Since this is a site specific objective, this is the applicable standard. Both, the MEC and the projected MEC of manganese exceed the Basin Plan site specific objective of 50 µg/L. Therefore, the Regional Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for manganese in the American River. The maximum observed upstream receiving water manganese concentration was 120 µg/l, which also exceeds the applicable Basin Plan site specific objective. Therefore, it appears that the American River does not have any assimilative capacity for discharge of manganese, and the applicable water quality objective (Basin Plan site specific objective) must be met at the discharge point. An effluent limitation for manganese is included in this Order based on the Basin Plan site specific objective and is established as 50 µg/L as a daily maximum. Based on the data available, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. However, as the Basin Plan site specific objective is not a new objective a schedule of compliance for manganese is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the manganese effluent limitation.
33. ***pH—*** The Basin Plan includes numeric water quality objectives that the pH “...*not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.*” The American River is designated as having both COLD and WARM beneficial uses. Effluent Limitations for pH are included in this Order and are based on the Basin Plan objectives for pH.

34. ***Sulfate-*** Sulfate was detected in each of the four effluent samples at concentrations ranging from 12 to 120 mg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of sulfate is calculated at 564 mg/L. USEPA and the California DHS established a secondary MCL of 250 mg/L for sulfate. Based on the projected MEC, the Regional Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for sulfate in the American River. The maximum observed upstream receiving water sulfate concentration was 3.8 mg/l, which is less than the applicable Basin Plan chemical constituent objective (secondary MCL). Therefore, it appears that the American River may have some assimilative capacity for discharge of sulfate. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for sulfate. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. This Order contains an effluent limitation for sulfate based on the Basin Plan chemical constituents objective (Secondary MCL), and is established as 250 mg/L as a monthly average. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. However, as the Basin Plan chemical constituent objective is not a new objective a schedule of compliance for sulfate is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the sulfate effluent limitation.
35. ***Temperature-*** Studies by the National Marine Fisheries Service and the U.S. Bureau of Reclamation have identified the Sacramento Chinook Salmon as a species that is affected by the elevated temperatures in the Sacramento River. There are four runs of salmon in the Sacramento River and there are adults and juveniles in portions of the River every month of the year. Juvenile salmon show signs of adverse effects at River temperatures above 65°F. Migration of adults is usually delayed when river temperatures reach 70°F. At 72°F, adult mortality may occur. In a Department of Water Resources Study, adult salmon will cease migration if water temperatures are above 70°F. Previous Order 98-066 contained a temperature effluent limitation of 70°F. Based on data provided by the Discharger, the maximum effluent temperature reported was 71.7°F in August 2000, a minimum of 53.6°F in December 2002, with a long-term average temperature of 63.5°F. The Basin Plan establishes a water quality objective for waterbodies designated COLD or WARM that at no time shall the discharge cause the temperature of the natural receiving water to be increased more than 5°F. Previous Order 98-066 established this Basin Plan prohibition as a Receiving Water Limitation. Based on data reported by the Discharger, the receiving water temperature of the receiving water for 63 months of monitoring data (June 1998 through September 2003) can be summarized as follows:

	R1		R2	
	<u>Temperature (°F)</u>	<u>pH</u>	<u>Temperature (°F)</u>	<u>pH</u>
Maximum	71.9	8.1	71.2	8.1
Minimum	48.2	6.4	48.2	6.4
Average`	59.67	7.5	59.72	7.5

Effluent and Receiving Water Limitations for temperature are included in this Order and are carried over from the previous Order. Based on data submitted in the past 5 years, the Discharger should meet these limitations with due diligence.

36. **Total Dissolved Solids-** The Basin Plan states that “Waters shall not contain constituents in concentrations that adversely affect beneficial uses.” For TDS, the secondary MCL recommended range is 500 mg/l, the upper range is 1000 mg/l, and the short term range is 1500 mg/l. The Agricultural Water Quality Goal for TDS is 450 mg/l, a value that represents a guideline for interpreting water quality for irrigation. However the Basin Plan in Table III-3 includes a more restrictive site specific water quality objective for TDS of 125 mg/l (90 percentile). Based on information included in analytical laboratory reports submitted by the Discharger, total dissolved solids (TDS) in the discharge have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan site-specific objective of 125 mg/l. The maximum observed TDS concentration was 320 mg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of TDS in the effluent is calculated to be 1504 mg/l. The maximum observed upstream receiving water TDS concentration was 49 mg/l, which is less than the applicable Basin Plan site specific objective. Therefore, it appears that the American River may have some assimilative capacity for discharge of TDS. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria or site specific objectives. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for TDS. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. An Effluent Limitation for TDS is included in this Order and is based on the Basin Plan site specific water quality objective for TDS and is established as 125 mg/l as a daily maximum. Based on the data available, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. However, as the Basin Plan site specific objective is not a new objective a schedule of compliance for TDS is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the TDS effluent limitation.
37. **Tributyltin-** (TBT) was detected in one of four effluent samples at a concentration of 0.056 µg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of TBT is calculated at 0.263 µg/L. The USEPA has established an Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life for TBT of 0.072 µg/L as a 4-day average (chronic) concentration, and 0.46 µg/L as a 1-hr average (acute) concentration. The projected MEC of TBT exceeds these criteria; therefore, there is a reasonable potential that the discharge may cause or contribute to an excursion of applicable water quality standards (USEPA ambient water quality criteria implementing the Narrative Toxicity objective). The maximum observed upstream receiving water TBT concentration was non-detect (<0.05 µg/l). Therefore, it appears that the American River may have some assimilative capacity for discharge of TBT. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. **Provision E5** allows the Discharger to complete an independent mixing zone study, and allow the Regional Board to reopen this Order and establish final effluent limitations for TBT. Until dilution credits can be considered the effluent limitations will be established at the point of

discharge. This Order contains effluent limitations for TBT based on the Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life and are established as 0.06 µg/L as a monthly average and 0.12 µg/L as a daily maximum. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitations, and a compliance time schedule is needed. However, as the Basin Plan narrative toxicity objective is not a new objective a schedule of compliance for TBT is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the TBT effluent limitations.

38. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.
39. As stated in the above Findings, the USEPA adopted the NTR and the CTR, which contain promulgated water quality criteria applicable to this discharge and the State Water Resources Control Board adopted the SIP, which contains guidance on implementation of the NTR and CTR. CTR and NTR criteria along with beneficial use designations contained in the Basin Plan and antidegradation policies constitute water quality standards pursuant to the Clean Water Act. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must: be based on current treatment plant performance or existing permit limitations, whichever is more stringent; include interim compliance dates separated by no more than one year, and; be included in the Provisions. The interim limitations in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are ten or more sampling data points available, sampling and laboratory variability are accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists*, Kennedy and Neville). Therefore, the interim limitations in this Order are established as the mean plus 3.3 standard deviations of the available data. Where actual sampling shows an exceedance of the proposed 3.3 standard deviations interim limit, the maximum detected concentration has been established as the interim limitation. When there are less than ten sampling data points available, the *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001) (TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. Therefore, when there are less than ten sampling results for a constituent, the interim limitation is based on the corresponding multiplier from Table 3.1 of the TSD multiplied by the maximum observed sampling point. Interim limitations are established when compliance with NTR- and CTR-based Effluent Limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final Effluent Limitations, but in compliance with the interim Effluent Limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling

concentration until compliance with the Effluent Limitation can be achieved.

40. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; "The numerical and narrative water quality objectives define the least stringent standards that the Regional Board will apply to regional waters in order to protect the beneficial uses." This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Pesticides, Radioactivity, Salinity, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity.

GROUNDWATER

41. The beneficial uses of the underlying groundwater are municipal and domestic, industrial service, industrial process, and agricultural supply. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Board Resolution 68-16. The Discharger does not impound any wastewaters, and therefore, will not cause the underlying groundwater to be degraded.

STORMWATER

42. The State Water Resources Control Board adopted Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*, on 17 April 1997. All storm water runoff at this facility is collected and commingled with the non-contact cooling water prior to being discharged. Therefore, since storm water is part of the discharged effluent for which waste discharge requirements are established, a separate storm water permit is not required. If, in the future, there is a need to discharge off site, and separate the storm water discharges, the Discharger must file a Notice of Intent (NOI) with the State Water Resources Control Board in order to be covered under the General Storm Water Permit

GENERAL

43. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.

44. The SIP, Section 2.1, provides that: “Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.” Section 2.1 further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: ... *“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control and/or pollution minimization efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* This Order requires the Discharger to provide this information. The SIP further states that in no case shall a compliance schedule for dischargers not in compliance with a CTR criterion-based effluent limitation exceed 10 years from the effective date of the SIP (22 May 2000). Therefore, the new water quality-based effluent limitations for cadmium, copper, 1,2-dichloroethane, lead, nickel, selenium, and bis (2-ethylhexyl) phthalate become effective on **1 November 2005** if a compliance schedule justification is not completed and submitted by the Discharger to the Regional Board. Otherwise, final water quality-based effluent limitations for cadmium, copper, 1,2-dichloroethane, lead, nickel, selenium, and bis (2-ethylhexyl) phthalate become effective **22 May 2010**.
45. The Regional Board has considered the information in the attached Fact Sheet in developing the Findings of this Order. The Fact Sheet, Monitoring and Reporting Program No. R5-2005-0086, and Attachments A, through D are a part of this Order.
46. The discharge is presently governed by Waste Discharge Requirements Order No. 98-066, adopted by the Regional Board on 17 April 1998.
47. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.
48. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
49. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
50. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect 50 days following permit adoption (effective 13 August 2005), provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. 98-066 is rescinded and the California Department of General Services Office of State Publishing, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

1. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES) February 2004"].
3. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

B. Effluent Limitations:

1. Effluent shall not exceed the following limits unless otherwise specified per footnote 2:

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Arsenic	µg/L	---	10
	lbs/day ¹	---	0.11
Barium	µg/L	---	100
	lbs/day ¹	---	1.1
Bis (2-ethylhexyl) phthalate ²	µg/L	1.8	3.6
	lbs/day ¹	0.02	0.04
Cadmium ²	µg/L	0.41	0.82
	lbs/day ¹	0.0044	0.0089
Copper ²	µg/L	1.7	3.4
	lbs/day ¹	0.018	0.037
1,2 dichloroethane ²	µg/L	0.38	0.76
	lbs/day ¹	0.0041	0.0082
Fluoride	µg/L	1000	---
	lbs/day ¹	11	---
Iron	µg/L	---	300
	lbs/day ¹	---	3.3
Lead ²	µg/L	0.41	0.82
	lbs/day ¹	---	---

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
	lbs/day ¹	0.0044	0.0089
Manganese	µg/L	---	50
	lbs/day ¹		0.54
Nickel ²	µg/L	12	24
	lbs/day ¹	0.13	0.26
Organochlorine Pesticides ³	µg/L	ND	ND
	lbs/day ¹	0.0	0.0
Selenium ²	µg/L	4.1	8.2
	lbs/day ¹	0.044	0.089
Sulfate	mg/L	250	---
	lbs/day ¹	2712	---
Total Dissolved Solids	mg/L	---	125
	lbs/day ¹		1356
Tributyltin	µg/L	0.06	0.12
	lbs/day ¹	0.00065	0.0013

¹ Based upon an average discharge flow of 1.3 mgd for Discharge 001.

² Full compliance with this limitation is required by **22 May 2010** only upon approval of a compliance justification in accordance with Provision E4, otherwise full compliance is required by **1 November 2005**

³ Organochlorine Pesticides include aldrin, dieldrin, chlordane, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, hexachlorocyclohexane (alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC or lindane), endosulfan (alpha and beta), endosulfan sulfate, toxaphene, 4,4'DDD, 4,4'DDE, and 4,4'DDT.

2. Until 21 May 2010 and upon submittal and approval of a compliance justification in accordance with Provision E4, the effluent shall not exceed the following interim priority pollutant limits:

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>
Cadmium	µg/L	5.6
	lbs/day ¹	0.06
Copper	µg/L	46
	lbs/day ¹	0.49
Lead	µg/L	2.5
	lbs/day ¹	0.03
Nickel	µg/L	221
	lbs/day ¹	2.4

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>
Selenium	µg/L	34
	lbs/day ¹	0.37
1,2-dichloroethane	µg/L	2.4
	lbs/day ¹	0.03
Bis (2-ethylhexyl) phthalate	µg/L	17
	lbs/day ¹	0.18

¹ Based upon an average discharge flow of 1.3 mgd for Discharge 001.

3. The discharge shall not have a pH less than 6.5 nor greater than 8.5.
4. The temperature of the discharge shall not exceed 70 °F in any day of discharge.
5. The average monthly discharge flow shall not exceed 1.3 million gallons per day.
6. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%

Median for any three or more consecutive bioassays - - - - 90%

C. Receiving Water Limitations:

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

The discharge shall not cause the following in the receiving water:

1. *Bacteria:* The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
2. *Dissolved Oxygen:* Concentrations of dissolved oxygen to fall below 7.0 mg/l. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95th percentile concentration shall not fall below 75 percent of saturation.
3. *Oil and Grease:* Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.
4. *Color:* Discoloration that causes nuisance or adversely affects beneficial uses

5. *pH*: The ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units.
6. *Temperature*: The natural receiving water temperature to increase more than 5°F.
7. *Settleable Matter*: Substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
8. *Radioactivity*: Radionuclides to be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.

Concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

9. *Toxicity*: Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
10. *Biostimulatory Substances*: Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
11. *Floating Material*: Floating material in amounts that cause nuisance or adversely affect beneficial uses.
12. *Sediment*: Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.
13. *Suspended Sediment*: Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.
14. *Taste and Order*: Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
15. *Turbidity*: Changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity attributable to controllable water quality factors to exceed the following:

More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.

More than 20 percent where natural turbidity is between 5 and 50 NTUs.

More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.

More than 10 percent where natural turbidity is greater than 100 NTUs.

16. *Total Dissolved Solids (TDS)*: The 90th percentile concentration of TDS shall not exceed 125 mg/l.

17. *Pesticides*¹:

Pesticides in individual or combined concentrations that adversely affect beneficial uses.

Pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.

Total identifiable persistent chlorinated hydrocarbon pesticides in concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.

Concentrations exceeding those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 C.F.R. Section 131.12.)

Concentrations exceeding the lowest levels technically and economically achievable.

Concentrations exceeding the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

Concentrations of thiobencarb in excess of 1.0 µg/l

18. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
19. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB pursuant to the CWA and regulations adopted thereunder.

D. Groundwater Limitations:

1. The discharge shall not cause the underlying groundwater to be degraded.

¹ The term pesticide shall include: (1) any substance, or mixture of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest, which may infest or be detrimental to vegetation, man, animals, or households, or be present in any agricultural or nonagricultural environment whatsoever, or (2) any spray adjuvant, or (3) any breakdown products of these materials that threaten beneficial uses. Note that discharges of "inert" ingredients included in pesticide formulations must comply with all applicable water quality objectives.

E. Provisions:

1. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if the State Water Resources Control Board adopts a chronic toxicity water quality objective, this Order may be reopened and a limitation based on that objective included.
2. **Mercury Evaluation:** Due to the listing of mercury on the California 303 (d) list as a pollutant causing impairment of the American River, the discharge must not cause or contribute to increased mercury levels in fish tissue to meet the requirements of the anti-degradation policy described in SWRCB Resolution No. 68-16 and the anti-degradation provision in 40 CFR 131.12 (a) (1). Therefore, the Discharger shall develop a mercury evaluation workplan acceptable to the Executive Officer within **six (6) months** after adoption of this Order. The purpose of the workplan is to determine to what extent the Discharger may be contributing additional mass loadings of mercury into the American River. The workplan shall include 1 year of monthly monitoring for mercury using a "clean technique" USEPA Method 1631, with a final report due 4 months after the 1 year of monitoring with monthly mass loadings being calculated for each calendar month, and this Order may be reopened to establish an interim mass effluent limitation for mercury.
3. The Discharger shall monitor its discharge for aluminum and MBAS in accordance with the Monitoring and Reporting Program No. R5-2005-0086. This Order may be reopened and limitations established for any or all of these constituents based on the results of the monitoring program.
4. **Cadmium, Copper, 1,2-dichloroethane, Lead, Nickel, Selenium, Bis (2-ethylhexyl) phthalate Compliance Schedule:** This Order contains Effluent Limitations based on water quality criteria contained in the CTR for cadmium, copper lead, nickel, selenium, and bis (2-ethylhexyl) phthalate. By **1 October 2005**, the Discharger shall complete and submit a compliance schedule justification for cadmium, copper, 1,2-dichloroethane, lead, nickel, selenium, and bis (2-ethylhexyl) phthalate. The compliance schedule justification shall include all items specified in Paragraph 3, items (a) through (d), of Section 2.1 of the SIP. The new water quality based effluent limitations for cadmium, copper, 1,2-dichloroethane, lead, nickel, selenium, and bis (2-ethylhexyl) phthalate become effective on **1 November 2005** if a compliance schedule justification meeting the requirements of Section 2.1 of the SIP is not completed and submitted by the Discharger. Upon approval of the compliance schedule justification, the Discharger shall follow the

following time schedule and develop a corrective action, which evaluates reasonable measures to achieve full compliance with the new final water quality based effluent limitations for cadmium, copper, 1,2-dichloroethane, lead, nickel, selenium, and bis (2-ethylhexyl) phthalate by **22 May 2010**.

Task	Date Due
Submit Corrective Action Plan and implementation schedule	1 January 2006
Progress Report ¹	1 July, annually
Full compliance	22 May 2010

¹ The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, evaluate effectiveness of the implemented measures and assess whether additional measures are necessary to meet the time schedule.

5. **Dilution and Mixing Zone Study:** There is the potential that the American River provides assimilative capacity and that dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria or with site-specific Basin Plan objectives for bis (2-ethylhexyl) phthalate, nickel, selenium, lead, barium, fluoride, iron, sulfate, and total dissolved solids. No assimilative capacity exists for arsenic, cadmium, copper, 1,2 dichloroethane, organochlorine pesticides, and manganese. Dilution credits and mixing zones shall only be considered by the Regional Board only after the Discharger has completed an independent mixing zone study and demonstrated to the satisfaction of the Regional Board that a dilution credit is appropriate. If the Discharger chooses to conduct a mixing zone study, it shall be conducted in accordance with the procedures outlined in Appendix 5 of the SIP.

If after completion of the mixing zone study, it is determined that dilution credits are appropriate, then this Order may be reopened if necessary to modify effluent limitations for the subject constituents.

6. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated 1 February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
7. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0086, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

8. This Order expires on **1 June 2010** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such

date in application for renewal of waste discharge requirements if it wishes to continue the discharge.

9. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).
10. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 24 June 2005.

THOMAS R. PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0086

NPDES NO. CA0078875

MONITORING AND REPORTING PROGRAM
FOR

CALIFORNIA DEPARTMENT OF GENERAL SERVICES
OFFICE OF STATE PUBLISHING
SACRAMENTO COUNTY

This Monitoring and Reporting Program is issued pursuant to California Water Code Sections 13383. The Discharger shall not implement any changes to this Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program. Specific sample station locations shall be established under direction of the Regional Board's staff, and a description of the stations shall be attached to this Order.

WATER SUPPLY MONITORING

A sampling station shall be established where a representative grab sample of the water supply being used can be obtained. Water supply monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Sampling Frequency</u>
Purgeable HaloCarbons ¹	µg/l	Quarterly
Purgeable Aromatics ¹	µg/l	Quarterly
Standard Minerals ^{2,3}	mg/l	Annually
Electrical Conductivity ³ @ 25°C	µmhos/cm	Annually
Total Dissolved Solids ³	mg/l	Annually

¹ Continue to conduct this monitoring only if continue using existing groundwater well.

² Standard minerals shall include calcium, magnesium, hardness, sodium, potassium, alkalinity, sulfate, chloride, boron, and nitrate, and include verification that the analysis is complete (i.e., cation/anion balance).

³ If the source water is from more than one well, the EC, TDS, and Standard Minerals shall be reported as a weighted average and include copies of supporting calculations.

EFFLUENT MONITORING

Effluent samples shall be collected at outfall 001 prior to discharge to the American River at a point downstream from the final connection through which wastes can be admitted into the outfall. Effluent samples shall be representative of the total volume and quality of the discharge. Date and time of collection of samples shall be recorded. Effluent monitoring shall include at least the following:

Constituents	Units	Type of Sample	Sampling Frequency
Flow	mgd	Metered or Estimated	Continuous or Daily (if estimated)
pH	standard units	Metered or Grab	Daily
Temperature	°F	Grab	Daily
Arsenic	µg/L, lbs/day	Grab	Monthly
Cadmium	µg/L, lbs/day	Grab	Monthly
Copper	µg/L, lbs/day	Grab	Monthly
Dissolved Oxygen	mg/L	Grab	Monthly
Lead	µg/L, lbs/day	Grab	Monthly
Nickel	µg/L, lbs/day	Grab	Monthly
Selenium	µg/L, lbs/day	Grab	Monthly
1,2 Dichloroethane	µg/L, lbs/day	Grab	Quarterly
Bis (2-ethylhexyl) phthalate	µg/L, lbs/day	Grab	Quarterly
Barium	µg/L, lbs/day	Grab	Quarterly
Iron	µg/L, lbs/day	Grab	Quarterly
Manganese	µg/L, lbs/day	Grab	Quarterly
Fluoride	µg/L, lbs/day	Grab	Quarterly
Tributyltin	µg/L, lbs/day	Grab	Quarterly
Total Dissolved Solids	mg/L, lbs/day	Grab	Quarterly
Sulfate	mg/L, lbs/day	Grab	Quarterly
Aluminum	µg/L	Grab	Quarterly (1 year only)
MBAS	µg/L	Grab	Quarterly (1 year only)
Organochlorine Pesticides ¹	µg/L, lbs/day	Grab	Quarterly/Annually ¹
Acute Toxicity ²	% Survival	Grab	Annually
Priority and other Pollutants ^{3,4}	µg/L	Grab	Once-July 2009

¹ Organochlorine Pesticides include aldrin, dieldrin, chlordane, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, hexachlorocyclohexane (alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC or lindane), endosulfan (alpha and beta), endosulfan sulfate, toxaphene, 4,4'DDD, 4,4'DDE, and 4,4'DDT. For adequate analyses,

quantitation limits listed in Attachment D shall be used. Quarterly for 1 year, then annually if all 4 consecutive quarters non-detect. Quarterly to resume if detected on subsequent annual analyses.

- ² All acute toxicity bioassays shall be performed according to EPA-821-R-02-012 *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, October 2002 (or latest edition) using *Pimephales promelas* with no pH adjustment, with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP). Temperature and pH shall be recorded at the time of bioassay sample collection.
- ³ Priority Pollutants are defined as USEPA Priority Pollutants and consist of constituents listed in the most recent NTR and CTR (40 CFR Part 131.38).
- ⁴ The list of priority pollutants and other pollutants of concern along with the required minimum levels (MLs) (or criterion quantitation limits) is included in **Attachment D**. Individual constituents and their analysis results shall be reported.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water monitoring shall include at least the following:

Station	Description
R-1	On the American River, 50 feet upstream of the discharge outfall.
R-2	On the American River, 50 feet downstream of the discharge outfall.

Constituents	Units	Station	Sampling Frequency
Dissolved Oxygen	mg/L	R-1, R-2	Quarterly
pH	standard units	R-1, R-2	Quarterly
Temperature	°F	R-1, R-2	Quarterly
Turbidity	NTU	R-1, R-2	Quarterly
TDS	mg/L	R-1, R-2	Quarterly

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions, in the wetlands and all sampling locations. Attention shall be given to the presence or absence of:

- a. Floating or suspended matter
- b. Discoloration
- c. Bottom deposits
- d. Aquatic life

- e. Visible films, sheens or coatings
- f. Fungi, slimes, or objectionable growths
- g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

THREE SPECIES CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA-821-R-02-013, *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002. Samples shall be collected at the outfall 001 prior to discharge to the American River. Grab samples shall be representative of the volume and quality of the discharge. Time of collection samples shall be recorded. Dilution and control waters shall be provided by the laboratory or collected from the receiving water upstream of the discharge from an area unaffected by the discharge. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species: *Pimephales promelas*, *Ceriodaphnia dubia* and *Selenastrum capricornutum*

Frequency: *Annually*

Dilution Series:

	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Lab Water
% Effluent	100	75	50	25	12.5	0	0
% Dilution Water*	0	25	50	75	87.5	100	0
% Lab Water	0	0	0	0	0	0	100

* Dilution water shall be receiving water from the American River taken upstream from the discharge point. The dilution series and dilution water may be altered upon approval of Regional Board staff.

REPORTING

Monitoring results shall be submitted monthly to the Regional Board by the **first day** of the second month following sample collection. Quarterly, semi-annual, and annual monitoring results and reports shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively. For times when the facility does not discharge in an entire month, a report is still required in the form of a letter stating discharges did not occur in that month.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, should be determined and recorded.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

By **1 February** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

- a. The names, certificate grades, and general responsibilities of all persons employed at the facility (Standard Provision A.5).
- b. The names and telephone numbers of persons to contact regarding the facility for emergency and routine situations.
- c. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.6).
- d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the facility as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

The Discharger may also be requested to submit an annual report to the Regional Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the facility's compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

MONITORING AND REPORTING PROGRAM ORDER NO. R5-2005-0086
CALIFORNIA DEPARTMENT OF GENERAL SERVICES
OFFICE OF STATE PUBLISHING
SACRAMENTO COUNTY

-6-

The Discharger shall implement the above monitoring program on the first day of the month following effective date of this Order.

Ordered by: THOMAS R. PINKOS, Executive Officer

24 June 2005

(Date)

SUMMARY EFFLUENT DATA AND CRITERIA, PRIORITY POLLUTANTS

Constituent, Unit CTR # Date	Antimony, µg/L #1	Arsenic, µg/L #2	Be, µg/L #3	Cadmium, µg/L #4	Cr (III), µg/L # 5a	Cr (VI), µg/L # 5b	Cu, µg/L #6	Lead, µg/L #7	Mercury, µg/L #8	Nickel, µg/L #9	Selenium, µg/L #10	Silver, µg/L #11	Thallium, µg/L #12	Zinc, µg/L #13	Cyanide, µg/L #14	Asb., MFL #15
3/20/02	ND	4.1	ND	0.57	0.31 EST	NA	5.7	ND	0.0026	47	ND	ND	ND	ND	ND	ND
6/27/02	ND	15	ND	1.2	2.6	ND	9.7	ND	0.0014	43	7.2	ND	ND	ND	ND	ND
9/24/02	4.8 EST	4.7	ND	0.69	0.36 EST	ND	6.7	ND	0.0020	25	ND	ND	ND	ND	ND	ND
12/5/02	ND	4.2	ND	0.42	ND	ND	4.9	0.53	0.0017	4.9 EST	ND	ND	ND	10	ND	ND
MEC, µg/L*	ND	15(70.5)	ND	1.2(5.64)	2.6	ND	9.7(45.6)	0.53(2.49)	0.0026	47(221)	7.2(33.8)	ND	ND	10(47)	ND	ND
Background, µg/L	ND	0.78	ND	0.081	3.8	ND	3.0	ND	0.0026	8.3	2.4	ND	ND	4.4	ND	ND
Numeric Basin Plan Objective, µg/L (Site Specific, MCL)	MCL 6	MCL 10	MCL 4	MCL 5	None	MCL 50 (Total)	None	MCL- action level 15	303d <0.0005	MCL 100	MCL 50	None	MCL 2	Site Sp 100	Site Sp 10	MCL 7 MFL
CMC Freshwater, µg/L Total @ 22 mg/l Hardness (as CaCO ₃)	None est.	340 i,m,w	None est.	0.82 e,i,m,w,x	502.5 e,i,m,o	16 i,m,w	3.4 e,i,m,w,x	11.9 e,i,m	None est.	130.3 e,i,m,w	20	0.3 e,i,m	None est.	33.2 e,i,m,w ,x	22 o	None Est.
CCC Freshwater, µg/L Total @ 22 mg/l Hardness (as CaCO ₃)	None est.	150 i,m,w	None est.	0.75 e,i,m,w	59.9 e,i,m,o	11 i,m,w	2.6 e,i,m,w	0.5 e,i,m	None est.	14.5 e,i,m,w	5 q	None est.	None est.	33.2 e,i,m,w	5.2 o	None Est.
Human Health, µg/L Water + Org.	14 a,s	None Est.	n	n	n	n	1300	n	0.050 a	610 a	n	None Est.	1.7 a,s	None Est.	700 a	7 MFL k,s
Human Health, µg/L Organisms Only	4300 a,t	None Est.	n	n	n	n	None Est.	n	0.051 a	4600 a	n	None Est.	6.3 a,t	None Est.	220,000 a,j	None Est.
Reasonable Potential	No	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. * Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC when RP is based on a non-CTR stringent criterion.

Constituent, Unit CTR # Date	2, 3, 7, 8-TCDD (Dioxin), µg/L # 16	Acrolein, µg/L # 17	Acrylonitrile, µg/L # 18	Benzene, µg/L # 19	Bromoform, µg/L # 20	Carbon Tetrachloride, µg/L, # 21	Chlorobenzene (Monochloro- benzene), µg/L, # 22	Chlorodibromo- methane, µg/L # 23	Chloroethane, µg/L # 24	2-Chloro- ethylvinyl Ether # 25
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ATTACHMENT C, cont

3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L	MCL 3.0E-08	Aquatic Toxicity 21		MCL 1	MCL THM 80	MCL 0.5	MCL 70	MCL THM 80		Aquatic Toxicity 122
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	1.3E-08 c	320 s	0.059 a,c,s	1.2 a,c	4.3 a,c	0.25 a,c,s	680 a,s	0.41 a,c	None Est.	None Est.
Human Health, µg/L Org Only	1.4E-08 c	780 t	0.66 a,c,t	71 a,c	360 a,c	4.4 a,c,t	21,000 a,j,t	34 a,c	None Est.	None Est.
Reasonable Potential	No	No	No	No	No	No	No	No	No	No

Constituent, Unit, CTR # Date	Chloroform, µg/L # 26	Dichlorobromo- methane, µg/L # 27	1,1- Dichloroethane, µg/L # 28	1,2-Dichloro- ethane, µg/L # 29	1,1-Dichloro- ethylene, µg/L # 30	1,2-Dichloro- propane, µg/L #31	1,3-Dichloro- propylene, µg/L # 32	Ethylbenzene, µg/L # 33	Methyl Bromide (Bromomethane), µg/L, # 34	Methyl Chloride (Chloromethane), µg/L, # 35
3/20/02	ND	ND	0.37 EST	0.51	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	0.53 EST	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	0.55 EST	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	0.35 EST	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	0.51(2.4)	ND	ND	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	0.52	ND	ND	ND	ND	ND	ND
BP Obj, µg/L	OEHHA 1.1	MCL 5	MCL 5	MCL 0.5	MCL 6	MCL 5	MCL 0.5	MCL 300		
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	(CTR reserved)USEPA 5.7	0.56 a,c		0.38 a,c,s	0.057 a,c,s	0.52 a	10 a,s	3,100 a,s	48 a	n
Human Health, µg/L Org Only	(CTR reserved)USEPA 470	46 a,c		99 a,c,t	3.2 a,c,t	39 a	1,700 a,t	29,000 a,t	4,000 a	n
Reasonable Potential	No	No	No	Yes	No	No	No	No	No	No

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. * Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC when RP is based on a non-CTR stringent criterion.

ATTACHMENT C, cont

Constituent, Unit CTR # Date	Methylene Chloride, µg/L # 36	1,1,2,2-Tetra- chloroethane, µg/L # 37	Tetrachloro- ethylene, µg/L # 38	Toluene, µg/L # 39	1,2-Trans- Dichloro ethylene, µg/L # 40	1,1,1 - Trichloro- ethane, µg/L # 41	1,1,2-Trichloro- ethane, µg/L # 42	Trichloro- ethylene, µg/L # 43	Vinyl Chloride, µg/L # 44	2-Chloro- phenol, µg/L # 45
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	0.4 EST	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	0.46 EST	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC, ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Background, ug/L	0.37 EST	ND	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L	MCL 5	MCL 1.0	MCL 5	MCL 150	MCL 10	MCL 200	MCL 5	MCL 5	MCL 0.5	
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	4.7 a,c	0.17 a,c,s	0.8 c,s	6,800 a	700 a	n	0.60 a,c,s	2.7 c,s	2 c,s	120 a
Human Health, µg/L Org Only	1,600 a,c	11 a,c,t	8.85 c,t	200,000 a	140,000 a	n	42 a,c,t	81 c,t	525 c,t	400 a
Reasonable Potential	No	No	No	No	No	No	No	No	No	No

Constituent, Unit CTR # Date	2, 4 Dichlorophenol, µg/L # 46	2,4-Dimethyl – phenol, µg/L # 47	2-Methyl 4,6-Di- nitrophenol, µg/L # 48	2,4-Dinitrophenol, µg/L # 49	2-Nitrophenol, µg/L # 50	4-Nitro– phenol, µg/L # 51	4-chloro-3-methyl phenol, µg/L # 52	Pentachloro- phenol, µg/L # 53	Phenol, µg/L # 54
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L					Aquatic Toxicity 150		Aquatic Toxicity 30	MCL 1.0	
CMC Freshwater, µg/L At worst pH=6.9	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	7.9 f,w	None Est.
CCC Freshwater, µg/L At worst pH=6.9	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	6.1 f,w	None Est.
Human Health, µg/L Water +Org Only	93 a,s	540 a	13.4 s	70 a,s	None Est.	None Est.	None Est.	0.28 a,c	21,000 a
Human Health, µg/L Org Only	790 a,t	2,300 a	765 t	14,000 a,t	None Est.	None Est.	None Est.	8.2 a,c,j	4,600,000 a,j,t
Reasonable Potential	No	No	No	No	No	No	No	No	No

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. * Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC when RP is based on a non-CTR stringent criterion.

ATTACHMENT C, cont

Constituent, Unit CTR # Date	2, 4, 6 Trichloro- phenol, µg/L # 55	Acenaphthene, µg/L # 56	Acenaphthylene, µg/L # 57	Anthracene, µg/L # 58	Benidine, µg/L # 59	Benzo(a) anthracene, µg/L # 60	Benzo(a) Pyrene, µg/L # 61	Benzo(b) fluoranthene, µg/L # 62	Benzo(ghi) perylene, µg/L # 63
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L							MCL 0.2		
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	2.1 a,c	1,200 a	None established	9,600 a	0.00012 a,c,s	0.0044 a,c	0.0044 a,c	0.0044 a,c	None established
Human Health, µg/L Org Only	6.5 a,c	2,700 a	None established	110,000 a	0.00054 a,c,t	0.049 a,c	0.049 a,c	0.049 a,c	None established
Reasonable Potential	No	No	No	No	No	No	No	No	No

Constituent, Unit CTR # Date	Benzo(k) fluoranthene, µg/L # 64	Bis (2-Chloro- ethoxy) Methane, µg/L # 65	Bis (2- Chloroethyl) Ether, µg/L # 66	Bis (2-Chloroiso- propyl) Ether, µg/L # 67	Bis (2-Ethylhexyl) Phthalate, µg/L # 68	4-Bromo- phenyl Phenyl Ether, µg/L # 69	Butyl benzyl Phthalate, µg/L # 70	2-Chloro- naphthalene, µg/L # 71	4-Chloro phenyl Phenyl Ether, µg/L # 72
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	3.7 EST	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	3.7(17.39)	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L				Aquatic Toxicity 122	MCL 4	Aquatic Tox 122	Aquatic Tox 3	Aquatic Toxicity 1600	Aquatic Toxicity 122
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	0.0044 a,c	None established	0.031 a,c,s	1,400 a	1.8 a,c,s	None established	3,000 a	1,700 a	None Est.
Human Health, µg/L Org Only	0.049 a,c	None established	1.4 a,c,t	170,000 a,t	5.9 a,c,t	None established	5,200 a	4,300 a	None Est.
Reasonable Potential	No	No	No	No	Yes	No	No	No	No

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. * Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC when RP is based on a non-CTR stringent criterion.

ATTACHMENT C, cont

Constituent, Unit, CTR # Date	Chrysene, µg/L # 73	Dibenzo (ah) anthracene, µg/L, # 74	1,2 Dichloro- benzene, µg/L # 75	1, 3 Dichloro- benzene, µg/L # 76	1, 4 Dichloro- benzene, µg/L # 77	3,3-Dichloro- benzidine, µg/L # 78	Diethyl Phthalate, µg/L # 79	Dimethyl Phthalate, µg/L, # 80	Di-n-Butyl Phthalate, µg/L # 81
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	2	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	2	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L			MCL 600		MCL 5		Aquatic Toxicity 3	Aquatic Tox 3	Aquatic Toxicity 3
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	0.0044 a,c	0.0044 a,c	2,700 a	400	400	0.04 a,c,s	23,000 a,s	313,000 s	2,700 a,s
Human Health, µg/L Org Only	0.049 a,c	0.049 a,c	17,000 a	2,600	2,600	0.077 a,c,t	120,000 a,t	2,900,000 t	12,000 a,t
Reasonable Potential	No	No	No	No	No	No	No	No	No

Constituent, Unit CTR # Date	2,4-Dinitro – toluene, µg/L # 82	2,6-Dinito- toluene, µg/L # 83	Di-n-Octyl Phthalate, µg/L # 84	1,2-Diphenyl – hydrazine, µg/L # 85	Fluoranthene, µg/L # 86	Fluorene, µg/L # 87	Hexachloro- benzene, µg/L # 88	Hexachloro – butadiene, µg/L # 89	Hexachloro – cyclopentadiene, µg/L, # 90
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L			Aquatic Toxicity 3						MCL 50
CMC Freshwater, µg/L	None Est.	None Est.	None Est.		None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.		None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	0.11 c,s	None Est.	None Est.	0.040 a,c,s	300 a	1,300 a	0.00075 a,c	0.44 a,c,s	240 a,s
Human Health, µg/L Org Only	9.1 c,t	None Est.	None Est.	0.54 a,c,t	370 a	14,000 a	0.00077 a,c	50 a,c,t	17,000 a,j,t
Reasonable Potential	No	No	No	No	No	No	No	No	No

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. * Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC when RP is based on a non-CTR stringent criterion.

ATTACHMENT C, cont

Constituent, Unit CTR # Date	Hexachloro – ethane, µg/L # 91	Indeno (1,2,3-cd) pyrene, µg/L # 92	Isophorone, µg/L # 93	Naphthalene, µg/L # 94	Nitrobenzene, µg/L # 95	N-Nitrosodimethyl- amine, µg/L # 96	N-Nitrosodi-n- Propylamine, µg/L # 97	N-Nitrosodiphenyl amine, µg/L # 98
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND
BP Obj, µg/L								
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health, µg/L Water +Org Only	1.9 a,c,s	0.0044 a,c	8.4 c,s	None Est.	17 a,s	0.00069 a,c,s	0.005 a	5.0 a,c,s
Human Health, µg/L Org Only	8.9 a,c,t	0.049 a,c	600 c,t	None Est.	1,900 a,j,t	8.1 a,c,t	1.4 a	16 a,c,t
Reasonable Potential	No	No	No	No	No	No	No	No

Constituent, Unit CTR # Date	Phenanthrene, µg/L # 99	Pyrene, µg/L # 100	1,2,4-Trichloro- benzene, µg/L # 101	Aldrin, µg/L # 102	α-BHC, µg/L # 103	β-BHC, µg/L # 104	γ-BHC (Lindane), µg/L # 105	δ-BHC, µg/L # 106	Chlordane, µg/L # 107	4,4' DDT, µg/L # 108
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	0.026	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC,µg/L	ND	ND	ND	ND	ND	ND	ND	0.026(0.12)	ND	ND
Background, µg/L	ND	ND	ND	ND	0.01	ND	0.053	0.022	ND	ND
BP Obj, µg/L			MCL 5	303d/OC Pest <0.005	303d/OC Pest <0.01	303d/OC Pest <0.014	303d/OC Pest <0.019	303d/OC Pest <0.005	303d/OC Pest <0.1	303d/OC Pest <0.01
CMC Freshwater, µg/L	None Est.	None Est.	None Est.	3 g			0.95 w		2.4 g	1.1 g
CCC Freshwater, µg/L	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	0.0043 g	0.001 g
Human Health, µg/L Water +Org Only	None established	960 a	None established	0.00013 a,c	0.0039 a,c	0.014 a,c	0.019 c	None established	0.00057 a,c	0.00059 a,c
Human Health, µg/L Org Only	None established	11,000 a	None established	0.00014 a,c	0.013 a,c	0.046 a,c	0.063 c	None established	0.00059 a,c	0.00059 a,c
Reasonable Potential	No	No	No	No	No	No	No	Yes	No	No

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. * Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC when RP is based on a non-CTR stringent criterion.

ATTACHMENT C, cont

Constituent, Unit CTR # Date	4, 4'-DDE, µg/L # 109	4,4'-DDD, µg/L # 110	Dieldrin, µg/L # 111	alpha-Endo- sulfan, µg/L # 112	beta-Endo- sulfan, µg/L # 113	Endosulfan Sulfate, µg/L # 114	Endrin, µg/L # 115	Endrin Aldehyde, µg/L # 116	Heptachlor, µg/L # 117	Heptachlor Epoxide, µg/L # 118
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	0.019	ND	ND
9/24/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	0.019(0.09)	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.031	ND
BP Obj, µg/L	OCPEst <0.05	OCPEst <0.05	303d/OCPEst <0.01	303d/OCPEst <0.02	303d/OCPEst <0.01	303d/OCPEst <0.05	303d/OCPEst <0.01	303d/OCPEst <0.01	303d/OCPEst <0.01	303d/OCPEst <0.01
CMC Freshwater, µg/L	None Est.	None Est.	0.24 w	0.22 g	0.22 g	None Est.	0.086 w	None Est.	0.52 g	0.52 g
CCC Freshwater, µg/L	None Est.	None Est.	0.056 w	0.056 g	0.056 g	None Est.	0.036 w	None Est.	0.0038 g	0.0038 g
Human Health, µg/L Water +Org Only	0.00059 a,c	0.00083 a,c	0.00014 a,c	110 a	110 a	110 a	0.76 a	0.76 a	0.00021 a,c	0.00010 a,c
Human Health, µg/L Org Only	0.00059 a,c	0.00084 a,c	0.00014 a,c	240 a	240 a	240 a	0.81 a,j	0.81 a,j	0.00021 a,c	0.00011 a,c
Reasonable Potential	No	No	No	No	No	No	No	Yes	No	No

Constituent, Unit CTR # Date	PCBs, µg/L # 119	PCBs, µg/L # 120	PCBs *, µg/L # 121 –125	Toxaphene, µg/L # 126
3/20/02	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND
9/24/02	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND
Background, µg/L	ND	ND	ND	ND
Basin Plan Objective, µg/L				303d/OCPEst <0.5
CMC Freshwater, µg/L				0.73
CCC Freshwater, µg/L	0.014u	0.014u	0.014u	0.0002
Human Health, µg/L Water +Org Only	0.00017c,v	0.00017c,v	0.00017c,v	0.00073a,c
Human Health, µg/L Org Only	0.00017c,v	0.00017c,v	0.00017c,v	0.00075a,c
Reasonable Potential	No	No	No	No

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. * Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC when RP is based on a non-CTR stringent criterion..

EFFLUENT DATA, OTHER POLLUTANTS OF CONCERN

Constituent, Unit Date	Aluminum, µg/L	Ammonia as N, mg/L	Barium, µg/L	Chloride, mg/L	EC µmhos/cm	Fluoride, µg/L	Iron, µg/L	Mn, µg/L	Nitrate as N, mg/L	Nitrite as N, mg/L	Sulfate mg/L	TDS, mg/L
4/98 thru 3/05					80 samples avg of 446							
3/20/02	39 EST	0.350	180	15	430	110	210	610	0.120 EST	ND	120	320
6/27/02	ND	0.230	150	16	460	250	ND	320	0.150 EST	ND	14	300
9/26/02	ND	0.270	150	18	450	290	46 EST	430	0.110 EST	ND	15	320
12/5/02	ND	0.360	200	16	540	550	150	820	0.024 EST	ND	12	310
MEC, µg/L	ND	0.360(1.69)	200(940)	18(84.6)	540(648)	550(2,585)	210(987)	820(3,854)	ND	ND	120(564)	320(1504)
Background, µg/L	50	0.120	13.4 EST	2.6	150	74 EST	67 EST	120	0.130 EST	190 EST	3.8	49
Numeric Basin Plan Objective, µg/L (site specific, MCL)	2ry MCL 200		MCL 1000	Ag WQ goal 106	Ag WQ goal 700	Ag WQ Rome Paper 1,000	2ry MCL 300	2ry MCL 50	MCL 10	MCL 1.0	2ry MCL 250/500	Ag WQ Rome Paper 450
Narrative Basin Plan Objective, µg/L	USEPA 87 CCC 750 CMC	USEPA 2.38 CCC 6.77 CMC **	100									125 (90 th percentile)
Reasonable Potential	No	No	Yes	No	No	Yes	Yes	Yes	No	No	Yes	Yes

Notes: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations. *Values in parenthesis are projected MECs calculated by multiplying appropriate multiplier of 4.7 by actual MEC (1.2 in the case of EC since have over 20 data points and CV was 0.1) when RP is based on a non-CTR stringent criterion. ** Based on pH of 7.9 and temperature of 17°C.

EFFLUENT DATA, OTHER POLLUTANTS OF CONCERN

Constituent, Unit Date	1,1,2- Trichloro- 1,2,2- Trifluor- ethane, µg/L	1,2-Dibromo 3-chloro- propane (DBCP), µg/L	2,4,5-TP Silvex), µg/L	2,4-D, µg/L	Alachlor, µg/L	Atrazine, µg/L	Bentazon, µg/L	Carbo- furan, µg/L	Chlor- pyrifos, µg/L	Cis-1,2- dichloro- ethene, µg/L	Dalapon, µg/L	Di((2- ethylhexyl) dipate, µg/L	Diazinon, µg/L
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31 EST	ND	ND	ND
9/26/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.55	ND	ND	ND
12/5/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.55 (2.6)	ND	ND	ND
Background, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Basin Plan Objective, µg/L	MCL 1200	MCL 0.2	USEPA 10 HH	MCL 70	MCL 2	MCL 1.0	MCL 18	MCL 18	CCC criterion 0.014	MCL 6	Aquatic Tox 110	MCL 400	CCC criterion 0.05
Reasonable Potential	No	No	No	No	No	No	No	No	No	No	No	No	No

Constituent, Unit Date	Dinoseb, µg/L	Diquat, µg/L	Endothal, µg/L	Ethylene Dibromid e µg/L	Foaming Agents, µg/L	Glyphosate, µg/L	Methoxychlor , µg/L	Methyl- tert-butyl ether (MTBE), µg/L	Molinate (Ordram) , µg/L	Oxamyl, µg/L	Picloram, µg/L	Tributyltin, µg/L
3/20/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/26/02	ND	ND	ND	ND	55 EST	ND	ND	ND	ND	ND	ND	ND
12/5/02	ND	ND	ND	ND	460 EST	ND	ND	ND	ND	ND	ND	0.056
MEC, µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	(0.2632)
Background, µg/L	ND	ND	ND	ND	25 EST	ND	ND	0.74 EST	ND	ND	ND	ND
Basin Plan Objective, µg/L	MCL 7	MCL 20	MCL 100	MCL 0.05	MCL 500	MCL 700	MCL 30	MCL 5	MCL 20	MCL 50	MCL 500	EPA Ambient Water Quality 0.072
Reasonable Potential	No	No	No	No	No	No	No	No	No	No	No	Yes

Notes: Footnotes, abbreviations, and other actions from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, May 18, 2000/Rules and Regulations.

INFORMATION SHEET

ORDER NO. R5-2005-0086
DEPARTMENT OF GENERAL SERVICES
OFFICE OF STATE PUBLISHING
SACRAMENTO COUNTY
NPDES NO. CA0078875

SCOPE OF PERMIT

This renewed Order regulates the discharge of effluent from the California Department of General Services, Office of State Publishing Facility. This Order includes effluent and surface water limitations, monitoring and reporting requirements, additional study requirements, and reopener provisions for effluent constituents.

BACKGROUND INFORMATION

The California Department of General Services owns and operates a publishing facility that provides printing and communications services to State, Federal, and City agencies. The facility is in projected Section 25, T9N, R4E, MDB&M. Approximately a monthly average flow of 1.3 mgd of non-contact cooling water is discharged to the American River (a water of the United States) through Outfall 001 at the point(s), latitude 38°N, 36', 10" (deg, min, sec) and longitude 121°W, 29', 00" (deg, min, sec). Well water is used as a cooling medium for heat exchange coils for air conditioning units located on the roof of the facility. These air conditioning units provide cooling for personnel and are not used for any publishing processes or equipment cooling. The facility only pumps well water when the air conditioning system is operational (typically from April through October). The well water flows through a sand filtration system prior to being used in the air conditioning cooling system. The non-contact cooling water mixes with on-site stormwater runoff during the rainy season prior to being discharged through a dedicated pipe to the American River.

RECEIVING WATER BENEFICIAL USES AND ASSIMILATIVE CAPACITY

The receiving stream is the American River. The beneficial uses of the American River from Folsom Dam to the Sacramento River as identified in Table II-1 of the Basin Plan are municipal and domestic supply (MUN), agricultural irrigation (AGR), industrial service supply (IND), industrial power supply (POW), water contact recreation (REC-1), canoeing and rafting, other non-contact water recreation (REC-2), warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD), warm fish migration habitat, cold fish migration habitat (MIGR), warm spawning habitat, cold spawning habitat (SPWN), and wildlife habitat (WILD).

Section IV-23 of the Basin Plan states: "Water bodies for which the Regional Water Board has held that the direct discharge of wastes is inappropriate as a permanent disposal method include sloughs and streams with intermittent flow or limited dilution capacity. The direct discharge of municipal and industrial wastes (excluding storm water discharges) into the following specific water bodies has been prohibited, as noted: American River, including Lake Natoma (from Folsom Dam to mouth)..."As stated previously, the effluent from the Discharger consists of non-contact cooling water and stormwater, which the Regional Board has historically allowed at this location, as evidenced by previous NPDES Permits (Order Nos. 98-066, 92-118, 87-041, and 81-017). No portion of the wastewater is

associated with industrial activity and consists solely of non-contact cooling water and stormwater runoff.

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

The Office of State Publishing conducted monitoring for priority and non-priority pollutants on 20 March 2002, 27 June 2002, 24 September 2002 and 5 December 2002. The analytical results of these four comprehensive sampling events were submitted to the Regional Board. The results of these sampling events (summarized in Attachment C of this Order) were used in developing this Order. All detectable results from these analyses are also summarized in Table 1 (attached). Effluent limitations are included in the Order to protect the beneficial uses of the receiving stream and to ensure that the discharge complies with the Basin Plan objective that toxic substances not be discharged in toxic amounts.

Reasonable potential (RP) was determined by calculating the projected MEC (maximum effluent concentration) for each constituent and comparing it to applicable water quality criteria; if a criterion was exceeded, the discharge was determined to have reasonable potential to exceed a water quality objective for that constituent. The projected MEC (maximum effluent concentration) is determined by multiplying the observed MEC (the maximum detected concentration) by a factor that accounts for statistical variation. The multiplying factor is determined (for 99% confidence level and 99% probability basis) using the number of results available and the coefficient of variation (CV) (standard deviation divided by the mean) of the sample results. However, when there are less than 10 results available, the default CV of 0.6 is used. In accordance with the SIP, non-detect results were counted as one-half the detection level when calculating the mean. For all constituents for which the source of the applicable water quality standard is the CTR or NTR, the multiplying factor is 1. Reasonable potential evaluation was based on the methods used in the SIP and the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001].

Effluent Limitations for water quality-based limitations were calculated in accordance with Section 1.4 of the SIP and the TSD. The following paragraphs describe the general methodology used for calculating Effluent Limitations.

Calculations for Effluent Limitations

In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC$$

$$ECA_{chronic} = CCC$$

$$ECA_{HH} = HH$$

where: ECA_{acute} = effluent concentration allowance for acute (one-hour average) toxicity criterion
 $ECA_{chronic}$ = effluent concentration allowance for chronic (four-day average) toxicity criterion
 ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective such as an MCL

CMC = criteria maximum concentration (one-hour average)
 CCC = criteria continuous concentration (four-day average, unless otherwise noted)
 HH = human health, agriculture, or other long-term criterion/objective

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTAs) using statistical multipliers (obtained from SIP Table 1, using a CV of 0.6, when less than 10 results available) and the lowest LTA was used. Additional statistical multipliers (obtained from SIP Table 2 using a CV of 0.6 and n=4, since available results were less than 10) were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

$$AMEL = mult_{AMEL} \left[\min \left(\overbrace{M_A ECA_{acute}, M_C ECA_{chronic}}^{LTA_{acute}} \right) \right]$$

$$MDEL = mult_{MDEL} \left[\min \left(\overbrace{M_A ECA_{acute}, M_C ECA_{chronic}}^{LTA_{chronic}} \right) \right]$$

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$AMEL_{HH} = ECA_{HH}$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}} \right) AMEL_{HH}$$

where: $mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
 $mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
 M_A = statistical multiplier converting CMC to LTA
 M_C = statistical multiplier converting CCC to LTA

In compliance with 40 Code of Federal Regulations (CFR) section 122.45(f), mass-based limitations have also been established in this Order. Generally, mass-based limitations ensure that dilution is not used to comply with concentration-based limitations. This Order has developed mass-based limitations based on the long-term average effluent flow of 1.3 million gallons per day (mgd).

The stretch of the American River from the Nimbus Dam to its confluence with the Sacramento River (American River) is listed as an impaired water body pursuant to Section 303(d) of the CWA. The list of pollutants for which American River is impaired appears on a list (the "California 303(d) List"), which was updated in 2002 and approved by the State Board in February 2003. The pollutants identified on the California 303(d) List as impairing American River are mercury and unknown toxicity. Resource extraction was the potential source for the mercury listing. Based on monitoring studies conducted by the Discharger, mercury was found in detectable concentrations in the facility's effluent and in the receiving waters but not in concentrations that resulted in the finding of reasonable potential.

The Regional Board plans to adopt Total Maximum Daily Loads (TMDLs) for mercury in the American River. The priority assigned this TMDL is low and a schedule for its completion has not been developed. Mercury is a bioaccumulative priority pollutant. Section 2.1.1 of the SIP recommends the Regional Board consider whether mass loading of the bioaccumulative pollutant should be limited to

representative, current levels pending TMDL development in order to implement the applicable water quality standard. Until the TMDL is completed and water quality based effluent limits are prescribed, an interim, performance based, annual mass-loading limit will be prescribed.

Mercury was detected in four effluent samples collected by the Discharger. Four sampling points of mercury is insufficient to determine the annual interim mass effluent limitation, therefore this permit does not contain an interim performance-based effluent annual mass limit for mercury until additional data are obtained. A Provision of this Order requires the Discharger to conduct one-year of monthly monitoring for mercury in the effluent, using a “clean technique” USEPA. Method 1631, with monthly mass loadings being calculated for each calendar month, and allows the Regional Board to reopen the permit to establish an interim effluent mass-based limitation for mercury. A final effluent limit for mercury will be determined from an approved TMDL

Dilution

There is the potential that the American River provides assimilative capacity and that dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria or a long term impact objective for bis (2-ethylhexyl) phthalate, nickel, selenium, lead, barium, EC, fluoride, iron, sulfate, total dissolved solids, and tributyltin. However, no assimilative capacity exists for arsenic, cadmium, copper, 1,2 dichloroethane, organochlorine pesticides, and manganese. Dilution credits and mixing zones shall only be considered by the Regional Board only after the Discharger has completed an independent mixing zone study and demonstrated to the satisfaction of the Regional Board that a dilution credit is appropriate. A Provision of this Order allows the Discharger to conduct a mixing zone study at their discretion for constituents that assimilative capacity may be available, and allows the Regional Board to reopen the permit and establish new final effluent limitations for these constituents. The Discharger may use the procedures outlined in Appendix 5 of the SIP to conduct this study.

Water Quality-based Effluent Limitations

PRIORITY POLLUTANTS

Arsenic—The Basin Plan includes a narrative chemical constituents water quality objective that states, “*waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses*” and also includes a numeric site specific Basin Plan objective. Municipal and domestic supply is a beneficial use of the receiving stream. . The USEPA Primary Maximum Contaminant Level (MCL) for arsenic is 10 µg/l. Pursuant to the Safe Drinking Water Act, the Department of Health Services (DHS) must revise the arsenic MCL in Title 22 CCR to be as low or lower than the USEPA MCL. Applying the Basin Plan’s “Policy for Application of Water Quality Objectives”, to protect future municipal and domestic water use, it is reasonable to apply the USEPA MCL for arsenic to the receiving stream. The site-specific Basin Plan objective (Table III-1) for the American River from Folsom Dam to the Sacramento River is also set at 10 µg/l, but as dissolved concentration, but since the default conversion factor is 1, then it also translates into a total recoverable concentration of 10 µg/l. The maximum observed effluent arsenic concentration was 15 µg/l, which exceeded the site specific Basin Plan

objective and the USEPA Primary MCL, therefore, there is a reasonable potential that the discharge will cause or contribute to an excursion of the Basin Plan chemical constituents objective and site specific objective. Since downstream of the discharge point, approximately 1.5 miles, exists an all year round drinking water intake, assimilative capacity of the receiving water will be based on the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) Public Health Goal (PHG) value of 0.0040 µg/l to be in compliance with the Basin Plan Narrative Toxicity Objective and be protective of the immediate MUN use. The maximum observed upstream receiving water arsenic concentration was 0.78 µg/l, which exceeds the OEHHA PHG value, thus the American River does not have any assimilative capacity for arsenic, and the applicable water quality objective (Basin Plan site specific objective) must be met at the discharge point. An Effluent Limitation for arsenic is included in this Order and is based on the Basin Plan site specific water quality objective for arsenic, and is established as 10 µg/l as a daily maximum. Based on the data available, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. Since the site specific Basin Plan objective is not a new objective, the time schedule for compliance with the arsenic effluent limitation is included in a separate Time Schedule Order.

Bis(2-ethylhexyl) phthalate- Data provided by the Discharger indicate that bis(2-ethylhexyl)phthalate was detected at an estimated effluent concentration of 3.7 µg/l (reported as DNQ-detected but not quantified or J Flag). The Method Detection Limit (MDL) for bis(2-ethylhexyl)phthalate is reported at 2.0 µg/l. USEPA human health CTR criteria for bis(2-ethylhexyl)phthalate are 1.8 µg/l (for waters from which both water and aquatic organisms are consumed) and 5.9 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The estimated concentration and the MDL for bis(2-ethylhexyl)phthalate exceed human health CTR criterion for waters from which both water and aquatic organisms are consumed. Therefore, since the MDL is greater than the most stringent water quality criteria and because the constituent was estimated to be detected in the discharge above the MDL, the discharge from the facility may have a reasonable potential to cause or contribute to an exceedance of human health CTR criteria for bis(2-ethylhexyl)phthalate of 1.8 µg/l. Bis(2-ethylhexyl)phthalate was not detected (<5 µg/l) in any of the 4 upstream receiving water samples taken in 2002. Therefore, it appears that the American River may have some assimilative capacity for discharge of bis(2-ethylhexyl) phthalate. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for bis(2-ethylhexyl)phthalate. However, until dilution credits can be considered the effluent limitations will be established at the point of discharge. Effluent Limitations for bis(2-ethylhexyl)phthalate are included in this Order and are based on human health CTR criteria and are established as 1.8 µg/l as a monthly average and 3.6 µg/l as a daily maximum. Based on the data submitted (1 out of 4 samples had a DNQ concentration that exceeded both limitations), it appears the Discharger cannot consistently comply with these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. A Provision of this Order requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final bis(2-ethylhexyl)phthalate effluent limits. The new water quality based effluent limitations for bis(2-ethylhexyl)phthalate become effective on

1 November 2005 if a compliance justification is not completed and submitted to the Regional Board by

1 October 2005. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

Limitations are calculated as follows:

$$\text{AMEL} = 1.8 \mu\text{g/l.}$$

$$\text{MDEL} = 2.01 \times 1.8 = 3.6 \mu\text{g/l.}$$

Interim Limitations calculated as follows”

$$\text{MDEL} = \text{MEC} \times 4.7 \text{ (n=4 and CV=0.6)}$$

$$\text{MDEL} = 3.7 \times 4.7 = 17 \mu\text{g/l.}$$

Cadmium- For cadmium, the USEPA freshwater aquatic life CTR criteria are hardness-dependent and are represented in tabular or graphic form, or by equations. As the hardness concentrations decrease, cadmium toxicity to aquatic life increases. Effluent data provided by the Discharger indicate that cadmium was detected in each of the four effluent samples at a maximum concentration of 1.2 $\mu\text{g/L}$. At a receiving water hardness of 22 mg/L , the CTR aquatic chronic criterion is 0.75 $\mu\text{g/L}$, and the CTR aquatic acute criterion is 0.82 $\mu\text{g/L}$. The maximum detected concentration of cadmium in the effluent exceeds both chronic and acute CTR criteria. The maximum observed upstream receiving water cadmium concentration was 0.081 $\mu\text{g/l}$. Dilution credits and mixing zones could be considered for compliance with CTR human health and/or aquatic life chronic criteria, but no dilution is allowed for compliance with the CTR aquatic life acute criterion. Therefore, CTR water quality criteria must be met at the discharge point. Based on this information, cadmium is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. Effluent Limitations for cadmium are included in this Order and are based on the freshwater aquatic life CTR criteria and are established as 0.41 $\mu\text{g/L}$ as a monthly average and 0.82 $\mu\text{g/L}$ as a daily maximum. Based on the data submitted (1 out of 4 samples exceeded the daily limit and all 4 exceeded the monthly average limit), it appears the Discharger cannot consistently comply with these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. A Provision of this Order requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final cadmium effluent limits. The new water quality based effluent limitations for cadmium become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

Limitations are calculated as follows:

$$\text{AMEL} = 1.55 \text{ (min, } \{(0.527 \times 0.75), (0.321 \times 0.82)\})$$

$$\text{AMEL} = 1.55 \times 0.26 = 0.41 \mu\text{g/l.}$$

$$\text{MDEL} = 3.11 \times 0.26 = 0.82 \mu\text{g/l.}$$

Interim Limitations calculated as follows”

$$\text{MDEL} = \text{MEC} \times 4.7 \text{ (n=4 and CV=0.6)}$$
$$\text{MDEL} = 1.2 \times 4.7 = 5.6 \text{ } \mu\text{g/l.}$$

Copper— Effluent data provided by the Discharger indicate that copper was detected in all four samples at a maximum concentration of 9.7 $\mu\text{g/l}$. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. Freshwater aquatic habitat is a beneficial use of the receiving water. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for copper in freshwater are 0.960 for both the acute and the chronic criteria. Using the worst-case (lowest of receiving water and effluent) measured hardness of 22 mg/l, the corresponding criteria are 3.4 $\mu\text{g/l}$ and 2.6 $\mu\text{g/l}$ for the acute and chronic criteria, respectively. The Basin Plan includes a site specific receiving water objective for dissolved copper of 10 $\mu\text{g/l}$ (independent of hardness), which translates to a total recoverable concentration of 10.4 $\mu\text{g/l}$ (using the default USEPA conversion factor of 0.96). Detected concentrations of copper in the effluent exceed CTR criteria. The maximum observed upstream receiving water copper concentration was 3.0 $\mu\text{g/l}$. Both the effluent and receiving water concentrations have exceeded the chronic criterion; therefore, there is no assimilative capacity for copper and the CTR criteria must be met at the point of discharge. The Effluent Limitations for copper included in this Order are presented in total concentrations, and are based on CTR criteria for the protection of freshwater aquatic life and are established as 1.7 $\mu\text{g/l}$ as a monthly average and 3.4 $\mu\text{g/l}$ as a daily maximum. Based on the data submitted (4 out of 4 samples exceed both limitations), it appears the Discharger cannot consistently comply with these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. A Provision of this Order requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final copper effluent limits. The new water quality based effluent limitations for copper become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

Limitations are calculated as follows:

$$\text{AMEL} = 1.55 \text{ (min, } \{(0.527 \times 2.6), (0.321 \times 3.4)\})$$
$$\text{AMEL} = 1.55 \times 1.09 = 1.7 \text{ } \mu\text{g/l.}$$
$$\text{MDEL} = 3.11 \times 1.09 = 3.4 \text{ } \mu\text{g/l.}$$

Interim Limitations calculated as follows”

$$\text{MDEL} = \text{MEC} \times 4.7 \text{ (n=4 and CV=0.6)}$$
$$\text{MDEL} = 9.7 \times 4.7 = 46 \text{ } \mu\text{g/l.}$$

1,2 Dichloroethane- Effluent data provided by the Discharger indicate that 1,2-dichloroethane was detected at a maximum effluent concentration of 0.51 $\mu\text{g/L}$. USEPA human health CTR criteria for 1,2-dichloroethane are 0.38 $\mu\text{g/L}$ (for waters that are sources of drinking water) and 99 $\mu\text{g/L}$ (for waters that

are not sources of drinking water but from which aquatic organisms may be consumed) as a 30-day average. The maximum detected concentration of 1,2-dichloroethane exceeds the CTR criterion for waters that are sources of drinking water. The discharge from this facility has a reasonable potential to cause an exceedance of applicable water quality standards. The maximum observed upstream receiving water concentration was 0.52 µg/l. Both the effluent and receiving water concentrations have exceeded the CTR human health criterion; therefore, there is no assimilative capacity for 1,2 dichloroethane and the CTR criteria must be met at the point of discharge. Effluent Limitations for 1,2-dichloroethane are included in this Order and are based on the human health CTR criteria and are established as 0.38 µg/L as a monthly average and 0.76 µg/L as a daily maximum. Based on the data submitted (1 out of 4 samples exceeded the monthly average limitation), it appears the Discharger cannot consistently comply with the limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. A Provision of this Order requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final 1,2-dichloroethane effluent limits. The new water quality based effluent limitations for 1,2-dichloroethane become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

Limitations are calculated as follows:

$$\text{AMEL} = 0.38 \text{ µg/l.}$$

$$\text{MDEL} = 2.01 \times 0.38 = 0.76 \text{ µg/l.}$$

Interim Limitations calculated as follows”

$$\text{MDEL} = \text{MEC} \times 4.7 \text{ (n=4 and CV=0.6)}$$

$$\text{MDEL} = 0.51 \times 4.7 = 2.4 \text{ µg/l.}$$

Lead— Effluent data provided by the Discharger indicate that lead was detected in one of four samples at a maximum concentration of 0.53 µg/l. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for lead. Freshwater aquatic habitat is a beneficial use of the receiving water. The criteria for lead are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. Using the worst-case (lowest of receiving water and effluent) measured hardness of 22 mg/l, the corresponding criteria are 11.9 µg/l and 0.5 µg/l for the acute and chronic criteria, respectively. The maximum observed effluent lead concentration of 0.53 µg/l exceeds the chronic criterion. Based on this information, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for lead. Lead was not detected (<0.25 µg/L) in any of the 4 upstream receiving water samples taken in 2002. Therefore, it appears that the American River may have some assimilative capacity for discharge of lead. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for lead. Until dilution credits can be considered the effluent limitations will be

established at the point of discharge. The Effluent Limitations for lead included in this Order are based on CTR criteria for the protection of freshwater aquatic life and are established as 0.41 µg/l as a monthly average and 0.82 µg/l as a daily maximum. Based on the data submitted (1 single detection out of 4 samples taken exceeded the monthly average limitation), it appears the Discharger cannot consistently comply with the monthly average limitation. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. A Provision of this Order requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan (which can include dilution credits/mixing zone analysis) and implementation schedule to assure compliance with final lead effluent limits. The new effluent limitations for lead become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

Limitations are calculated as follows:

$$\text{AMEL} = 1.55 (\min, \{0.527 \times 0.5\}, (0.321 \times 11.9))$$

$$\text{AMEL} = 1.55 \times 0.264 = 0.41 \mu\text{g/l.}$$

$$\text{MDEL} = 3.11 \times 0.264 = 0.82 \mu\text{g/l.}$$

Interim Limitations calculated as follows”

$$\text{MDEL} = \text{MEC} \times 4.7 \text{ (n=4 and CV=0.6)}$$

$$\text{MDEL} = 0.53 \times 4.7 = 2.5 \mu\text{g/l.}$$

Nickel- Effluent data provided by the Discharger indicate that nickel was detected in each of the four effluent samples at a maximum concentration of 47 µg/L. The freshwater aquatic life CTR criteria for nickel are hardness-dependent and are represented in tabular or graphic form, or by equations. As the hardness concentrations decrease, nickel toxicity to aquatic life increases. The nickel criteria are presented as both chronic or continuous concentrations (4-Day Average) and acute or maximum concentrations (1-Hour Average). Both acute and chronic criteria expressed as dissolved concentrations may be converted into total recoverable concentrations with conversion factors. The acute conversion factor for nickel is 0.998 and the chronic conversion factor for nickel is 0.997.

With a hardness of 22 mg/l, the freshwater aquatic life criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) for nickel are calculated at 14.5 µg/L and 130.3 µg/L, respectively. Detected concentrations of nickel exceed the CTR chronic criterion. Based on this information, nickel is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. The maximum observed upstream receiving water nickel concentration was 8.3 µg/l, which is less than the applicable CTR chronic criterion. Therefore, it appears that the American River may have some assimilative capacity for discharge of nickel. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for nickel. Until dilution credits can be considered the

effluent limitations will be established at the point of discharge. Effluent Limitations for nickel are included in this Order and are based on the freshwater aquatic life CTR criteria and are established as 12 µg/L as a monthly average and 24 µg/L as a daily maximum. Based on the data submitted (3 out of 4 samples exceeded both limitations), it appears the Discharger cannot consistently comply with these limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. A Provision of this Order requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final nickel effluent limits. The new water quality based effluent limitations for nickel become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

Limitations are calculated as follows:

$$\text{AMEL} = 1.55 (\text{min}, \{0.527 \times 14.5\}, (0.321 \times 130))$$

$$\text{AMEL} = 1.55 \times 7.64 = 12 \mu\text{g/l.}$$

$$\text{MDEL} = 3.11 \times 7.64 = 24 \mu\text{g/l.}$$

Interim Limitations calculated as follows”

$$\text{MDEL} = \text{MEC} \times 4.7 \text{ (n=4 and CV=0.6)}$$

$$\text{MDEL} = 47 \times 4.7 = 221 \mu\text{g/l.}$$

Organochloride pesticides- Data provided by the Discharger indicate that organochlorine pesticides (OPs), delta-BHC and endrin aldehyde, were detected in the effluent at a maximum effluent concentration of 0.026 µg/L and 0.019 µg/L, respectively. In addition, OPs alpha-BHC, gamma-BHC, delta-BHC, and heptachlor were detected in the American River at concentrations of 0.01 µg/L, 0.053 µg/L, 0.022 µg/L, and 0.031 µg/L respectively. The Basin Plan includes a water quality objective for pesticides on page III-6.0, which states: “No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses” and that “ Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer”. Human health CTR criteria for endrin aldehyde are 0.76 µg/l (for waters from which both water and aquatic organisms are consumed) and 0.81 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The National Academy of Sciences (NAS) established a Suggested No-Adverse-Response Level (SNARLs) of 500 µg/l (for exposure of 7 days or less) for delta-BHC.

The Basin Plan objective of non-detect is more restrictive than CTR water quality standards for organochlorine pesticides. The CTR states that CTR standards apply unless the State’s criteria are more restrictive. The presence of delta-BHC and endrin aldehyde in the effluent indicates that the discharge has a reasonable potential to cause or contribute to an exceedance of Basin Plan objectives for organochlorine pesticides. Furthermore, the detection of some OPs in the receiving water are indicative that the American River does not provide any assimilative capacity for OPs, and therefore, the Basin

Plan objective for OPs must be met at the point of discharge. This Order includes an Effluent Limitation for organochlorine pesticides based on the Basin Plan objective and is established as non-detect as a daily maximum. Because the Basin Plan objective for OPs clearly states that at no time the OPs concentration be detectable, it is not practical to have a weekly or 30-day average limit or non-detect and therefore a daily maximum limit is the appropriate limitation for OPs. Based on the OPs detections in the effluent and receiving water, it appears the Discharger cannot consistently comply with the OPs limitation, and a time schedule for compliance is needed. Since the Basin Plan OPs objective is not a new objective, the time schedule for compliance with the organochlorine pesticides limitation is included in a separate Time Schedule Order.

Selenium- Effluent data provided by the Discharger indicate that selenium was detected in one of four samples at a concentration of 7.2 µg/L. USEPA freshwater aquatic life CTR criteria continuous concentration (four-day average-chronic criterion) and maximum concentration (one-hour average-acute criterion) for selenium are 5 µg/l and 20 µg/l, respectively. The maximum detected concentration of selenium exceeds the CTR chronic criterion. Based on this information, selenium is discharged from the facility at levels that cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards. The maximum observed upstream receiving water selenium concentration was 2.4 µg/l, which is less than the applicable CTR chronic criterion. Therefore, it appears that the American River may have some assimilative capacity for discharge of selenium. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for selenium. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. Effluent Limitations for selenium are included in this Order and are based on the freshwater aquatic life CTR criteria and are established as 4.1 µg/L as a monthly average and 8.2 µg/L as a daily maximum. Based on the data submitted (1 out of 4 samples exceeded the monthly average limitation), it appears the Discharger cannot consistently comply with the limitations. Therefore, according to the SIP Section 2.1, a compliance schedule is included in the permit. A Provision of this Order requires the discharger to first submit justification for a time schedule and if approved then submit a corrective action plan and implementation schedule to assure compliance with final selenium effluent limits. The new effluent limitations for selenium become effective on **1 November 2005** if a compliance justification is not completed and submitted to the Regional Board by **1 October 2005**. Otherwise full compliance with these limitations is not required by this Order until **22 May 2010**, and in the meantime, interim effluent limits based on past performance are established.

Limitations are calculated as follows:

$$\text{AMEL} = 1.55 (\text{min}, \{(0.527 \times 5), (0.321 \times 20)\})$$

$$\text{AMEL} = 1.55 \times 2.64 = 4.1 \text{ µg/l.}$$

$$\text{MDEL} = 3.11 \times 2.64 = 8.2 \text{ µg/l.}$$

Interim Limitations calculated as follows”

MDEL = MEC x 4.7 (n=4 and CV=0.6)
MDEL = 7.2 x 4.7 = 34 µg/l.

NON-PRIORITY POLLUTANTS

Barium- Barium was detected in each of the four effluent samples at concentrations ranging from 150 µg/L to 200 µg/L. Using the methodology in the USEPA's Technical Support Document (TSD) for Water Quality-Based Toxics Control the projected Maximum Effluent Concentration (MEC) of barium is calculated at 940 µg/L. The Basin Plan chemical constituents objective (site specific objective) for portions of the American River from Folsom Dam to the Sacramento River is 100 µg/L. Both, the MEC and projected MEC of barium exceed the Basin Plan chemical constituents site specific objective; therefore, there is a reasonable potential that the discharge may cause or contribute to an excursion of the Basin Plan chemical constituents objective for barium. Municipal and domestic water supply is designated as a beneficial use of the American River. The maximum observed upstream receiving water barium concentration was a DNQ result of 13.4 µg/l, which is less than the applicable Basin Plan site specific objective. Therefore, it appears that the American River may have some assimilative capacity for discharge of barium. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for barium. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. Therefore, to protect the municipal and domestic water supply beneficial use, this Order contains an effluent limitation for barium based on the Basin Plan chemical constituents site specific objective and is established as 100 µg/L as a daily maximum. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. Since the Basin Plan site specific objective is not a new objective, a time schedule for compliance with the barium limitation is included in a separate Time Schedule Order.

Iron— The Basin Plan includes a water quality objective that states in part, "...water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations...Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449." Municipal and domestic supply is a beneficial use of the American River. The Secondary Maximum Contaminant Level (MCL)- for iron is 300 µg/l as total recoverable. The Basin Plan also includes a site specific receiving water objective for iron of 300 µg/l expressed as dissolved, which converts to 300 µg/l as total recoverable, assuming a translator of 1 since no other site specific translator has been developed. Since this is a site specific objective, this is the applicable standard. The maximum observed effluent iron concentration was 210 µg/l. Using the methodology in the USEPA's Technical Support Document (TSD) for Water Quality-Based Toxics Control the projected Maximum Effluent Concentration (MEC) of iron is calculated at 987 µg/L. The maximum observed upstream receiving water iron concentration was a DNQ result of 67 µg/l, which is less than the applicable Basin Plan site specific objective. Therefore, it appears that the American River may have some assimilative capacity

for discharge of iron. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for iron. Until dilution credits can be considered the effluent limitation will be established at the point of discharge. An Effluent Limitation for iron is included in this Order and is based on the site specific Basin Plan water quality objective and is established as 300 µg/l as a daily maximum. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. Since the site specific Basin Plan objective is not a new objective a time schedule for compliance with the iron limitation is included in a separate Time Schedule.

Manganese- Manganese was detected in each of the four effluent samples at concentrations ranging from 320 to 820 µg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of manganese is calculated at 3854 µg/L. USEPA and the California DHS established a secondary MCL of 50 µg/L for manganese. The Basin Plan also includes a site specific receiving water objective for manganese of 50 µg/l expressed as dissolved, which converts to 50 µg/l as total recoverable, assuming a translator of 1 since no other site specific translator has been developed. Since this is a site specific objective, this is the applicable standard. Both, the MEC and the projected MEC of manganese exceed the Basin Plan site specific objective of 50 µg/L. Therefore, the Regional Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for manganese in the American River. The maximum observed upstream receiving water manganese concentration was 120 µg/l, which also exceeds the applicable Basin Plan site specific objective. Therefore, it appears that the American River does not have any assimilative capacity for discharge of manganese, and the applicable water quality objective (Basin Plan site specific objective) must be met at the discharge point. An effluent limitation for manganese is included in this Order based on the Basin Plan site specific objective and is established as 50 µg/L as a daily maximum. Based on the data available, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. Since the Basin Plan site specific objective is not a new objective a time schedule for compliance with the manganese limitation is included in a separate Time Schedule Order.

Sulfate- Sulfate was detected in each of the four effluent samples at concentrations ranging from 12 to 120 mg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of sulfate is calculated at 564 mg/L. USEPA and the California DHS established a secondary MCL of 250 mg/L for sulfate. Based on the projected MEC, the Regional Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for sulfate in the American River. The maximum observed upstream receiving water sulfate concentration was 3.8 mg/l, which is less than the applicable Basin Plan chemical constituent objective (secondary MCL). Therefore, it appears that the American River may have some assimilative capacity for discharge of sulfate. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for sulfate. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. This Order contains an effluent limitation for sulfate based on the

Basin Plan chemical constituents objective (Secondary MCL), and is established as 250 mg/L as a monthly average. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. Since the Basin Plan chemical constituent objective is not a new objective, a time schedule for compliance with the sulfate limitation is included in a separate Time Schedule Order.

Total Dissolved Solids (TDS)- The Basin Plan states that “Waters shall not contain constituents in concentrations that adversely affect beneficial uses.” For TDS, the secondary MCL recommended range is 500 mg/l, the upper range is 1000 mg/l, and the short term range is 1500 mg/l. The Agricultural Water Quality Goal for TDS is 450 mg/l, a value that represents a guideline for interpreting water quality for irrigation. However the Basin Plan in Table III-3 includes a more restrictive site specific water quality objective for TDS of 125 mg/l (90 percentile). Based on information included in analytical laboratory reports submitted by the Discharger, total dissolved solids (TDS) in the discharge have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan site-specific objective of 125 mg/l. The maximum observed TDS concentration was 320 mg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of TDS in the effluent is calculated to be 1504 mg/l. The maximum observed upstream receiving water TDS concentration was 49 mg/l, which is less than the applicable Basin Plan site specific objective. Therefore, it appears that the American River may have some assimilative capacity for discharge of TDS. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria or site specific objectives. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for TDS. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. An Effluent Limitation for TDS is included in this Order and is based on the Basin Plan site specific water quality objective for TDS and is established as 125 mg/l as a daily maximum. Based on the data available, it appears the Discharger cannot consistently comply with the established limitation, and a compliance time schedule is needed. Since the Basin Plan site specific objective is not a new objective a time schedule for compliance with the TDS limitation is included in a separate Time Schedule Order.

Tributyltin- (TBT) was detected in one of four effluent samples at a concentration of 0.056 µg/L. Using the TSD reasonable potential analysis procedure, the projected MEC of TBT is calculated at 0.263 µg/L. The USEPA has established an Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life for TBT of 0.072 µg/L as a 4-day average (chronic) concentration, and 0.46 µg/L as a 1-hr average (acute) concentration. The projected MEC of TBT exceeds these criteria; therefore, there is a reasonable potential that the discharge may cause or contribute to an excursion of applicable water quality standards (USEPA ambient water quality criteria implementing the Narrative Toxicity objective). The maximum observed upstream receiving water TBT concentration was non-detect (<0.05 µg/l). Therefore, it appears that the American River may have some assimilative capacity for discharge of TBT. Dilution credits and mixing zones could be considered for compliance with human health and/or aquatic life chronic criteria. A Provision in this Order allows the Discharger to complete an independent mixing zone study, and allows the Regional Board to reopen this Order and establish final effluent limitations for TBT. Until dilution credits can be considered the effluent limitations will be established at the point of discharge. This Order contains effluent limitations for TBT based on the

Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life and are established as 0.06 µg/L as a monthly average and 0.12 µg/L as a daily maximum. Based on the data available, using the projected MEC, it appears the Discharger cannot consistently comply with the established limitations, and a compliance time schedule is needed. Since the Basin Plan narrative toxicity objective is not a new objective, a time schedule for compliance with the TBT limitations is included in a separate Time Schedule Order.

Limitations are calculated as follows:

$$\text{AMEL} = 1.55 (\text{min}, \{(0.527 \times 0.072), (0.321 \times 0.46)\})$$

$$\text{AMEL} = 1.55 \times 0.038 = 0.06 \mu\text{g/l.}$$

$$\text{MDEL} = 3.11 \times 0.038 = 0.12 \mu\text{g/l.}$$

pH—The American River is designated as having both COLD and WARM beneficial uses. Effluent Limitations for pH are included in this Order and are based on the Basin Plan objectives for pH.

Temperature- Effluent limitations for temperature are included in this Order and are carried over from the previous Order.

Aluminum and Methylene blue active substances (MBAS)-Based on data submitted by the Discharger, aluminum and MBAS were reported in estimated concentrations as the constituent was detected above the MDL but lower than the ML. Ammonia was also reported in detectable concentrations. Given the limited data the Regional Board cannot determine the reasonable potential for these constituents to cause or contribute to an exceedance of applicable water quality standards. This Order requires the Discharger to monitor for these constituents and provides a reopener to allow the Regional Board to include effluent limitations if necessary

Compliance Schedules—The use and location of compliances schedules in the permit depends on the Discharger's ability to comply and the source of the applied water quality criteria. The CTR parameters cadmium, copper, nickel, lead, selenium, 1,2 dichloroethane, and bis (2-ethylhexyl) phthalate have time schedules for compliance consistent with the SIP requirements. For the non-CTR parameters barium, fluoride, iron, manganese, tributyltin, sulfate, total dissolved solids, and for the CTR parameters arsenic and organochlorine pesticides, a time schedule is included in the accompanying Time schedule Order.

General Effluent Limitation Information—

Selected 40 CFR §122.2 definitions:

‘Average monthly discharge limitation means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.

Continuous discharge means a “discharge” which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

Maximum daily discharge limitation means the highest allowable “daily discharge”.

Instantaneous Maximum Effluent Limitation means the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

USEPA recommends a maximum daily limitation rather than an average weekly limitation for water quality-based permitting.

RECEIVING WATER LIMITATIONS AND MONITORING

Surface Waters

Receiving Water Limitations established in this Order are based upon water quality objectives for inland surface waters established in Chapter 3 of the Basin Plan. Compliance with the receiving water limitations will be measured through sampling in the receiving water at a monitoring location 50 feet downstream of where the discharge enters the American River.

Groundwater Limitations:

This Order prohibits the discharge from causing the underlying groundwater to be degraded.

**Table 1— Office of State Publishing Order No. R5-2005-0086:
 Summary of Effluent Data, Reasonable Potential Analysis, and Effluent Limitations**

Constituent	Max. Conc.	No. of Results	CV ¹	Multiplier ₂	Projected MEC	Criterion Conc.	Controlling Criterion or Goal	Limit Req'd?	ECA= AMEL			MDEL ⁹
	(µg/L)				(µg/L)	(µg/L)			(µg/L)			(µg/L)
Aluminum	39(est)	4	0.6	4.7	183(est)	87	USEPA Recommended Ambient Water Quality Criteria for Aquatic Life Protection	?	--			--
Ammonia	360	4	0.6	4.7	1692	2,380	USEPA Ambient Water Quality Criteria	N	--		-	--
Arsenic (CTR#2)	15	4	0.6	4.7	70.5	10	Site Specific Basin Plan Obj	Y				10
Barium	200	4	0.6	4.7	940	100	Site Specific Basin Plan Obj	Y				100
Bis(2-ethylhexyl) phthalate (CTR#68)	3.7 (est)	4	0.6	1	3.7 (est)	1.8	CA Toxics Rule (CTR)	Y	1.8 ³			3.6
Cadmium (CTR#4)	1.2	4	0.6	1	1.2	0.75 ⁷	CA Toxics Rule (CTR)	Y	0.41 ⁴			0.82
Chloride	18 ⁵	4	0.6	4.7	84.6 ⁵	106 ⁵	Agricultural Water Quality Goal	N	--		-	--
Chromium (total) (CTR#5a)	2.6	4	0.6	4.7	12.2	50	CA DHS Primary MCL	N	--		-	--
Copper (CTR#6)	9.7	4	0.6	1	9.7	2.6 ⁷	CA Toxics Rule (CTR)	Y	1.7 ⁴			3.4
delta-BHC (CTR#106)	.026	4	0.6	4.7	.122	ND	Basin Plan Objective for Organochlorine Pesticides	Y	ND			ND
1,1-Dichloroethane (CTR#28)	.55	4	0.6	4.7	2.6	5	CA Primary MCL	N	--		-	--
1,2-Dichloroethane (CTR#29)	.51	4	0.6	1	.51	0.38	CA Toxics Rule (CTR)	Y	0.38 ³			0.76
Diethyl Phthalate (CTR#79)	2	4	0.6	1	2	23 ⁵	CA Toxics Rule (CTR)	N	--		-	--
Electrical Conductivity (EC)	540 ⁶	84	0.1	1.2	648 ⁶	700 ⁶	Wescott and Ayers WQ Ag goal	N	--			--
Endrin Aldehyde (CTR#116)	.019	4	0.6	4.7	.09	ND	Basin Plan Objective for Organochlorine Pesticides	Y	ND			ND
Fluoride	550	4	0.6	4.7	2585	1,000	Agricultural Water Quality Goal	Y	1000 ³			--

**Table 1— Office of State Publishing Order No. R5-2005-0086:
 Summary of Effluent Data, Reasonable Potential Analysis, and Effluent Limitations**

	Max. Conc.				Projected MEC	Criterion Conc.			ECA= AMEL			MDEL ⁹
Foaming Agents (MBAS)	460 (est)	4	0.6	4.7	2162 (est)	500	CA DHS Secondary MCL	?	500 ³			--
Iron	210	4	0.6	4.7	987	300	Site Specific Basin Plan Obj	Y	--			300
Lead (CTR#7)	.53	4	0.6	1	.53	.5 ⁷	CA Toxics Rule (CTR)	Y	0.41 ⁴			0.82
Manganese	820	4	0.6	4.7	3854	50	Site Specific Basin Plan Obj	Y	--			50
Mercury (CTR#8)	.02	4	0.6	1	.02	0.05	CA Toxics Rule (CTR)	N	--		-	--
Nickel (CTR#9)	47	4	0.6	1	47	15 ⁷	CA Toxics Rule (CTR)	Y	12 ⁴			24
Nitrate	110	4	0.6	4.7	517	10 ⁵	U.S. EPA Primary MCL	N	--		-	--
Phosphorus (total)	940	4	0.6	4.7	4418	NA	No Criteria	N	--		-	--
Selenium, CTR#10	7.2	4	0.6	1	7.2	5	CA Toxics Rule (CTR)	Y	4.1 ⁴			8.2
Sulfate	140 ⁵	4	0.6	4.7	658 ⁵	250 ⁵	CA DHS Secondary MCL	Y	250 ^{3,5}			--
Total Dissolved Solids (TDS)	320 ⁵	4	0.6	4.7	1504 ⁵	125 ⁵	Site Specific Basin Plan Objective	Y	--			125 ⁵
Tributyltin	.056	4	0.6	4.7	.26	0.06	USEPA Ambient WQ Criteria	Y	0.06 ⁴			0.12
Trichloroethylene (CTR#43)	.46	4	0.6	1	.46	2.7	CA Toxics Rule (CTR)	N	--		-	--
Zinc (CTR#13)	10	4	0.6	1	10	10.22 ⁷	CA Toxics Rule (CTR)	N	--		-	--

¹ For less than 10 effluent data points, the coefficient of variation (CV) is estimated to equal 0.6.

² The multiplying factor (for 99% confidence level and 99% probability basis) is dependent on the CV and number of reported effluent results. For all constituents for which the source of the applicable water quality standard is the CTR, NTR, or site-specific Basin Plan numeric objectives referenced in the CTR, the multiplying factor is 1.

³For human health criterion/objective, water quality criteria = ECA (effluent concentration allowance) = AMEL (average monthly effluent limitation)

⁴For aquatic life criterion, LTA (long term average)acute =ECA acute*ECA acute multiplier, LTA chronic = ECA chronic*ECA chronic multiplier, AMEL aquatic life=LTA*AMEL multiplier utilizing most stringent LTA (acute or chronic)

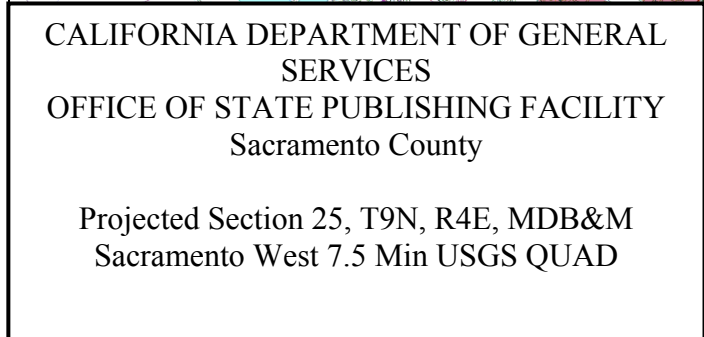
⁵ mg/L

⁶ µmhos/cm

⁷ Based on a receiving water hardness of 22 mg/L as CaCO₃

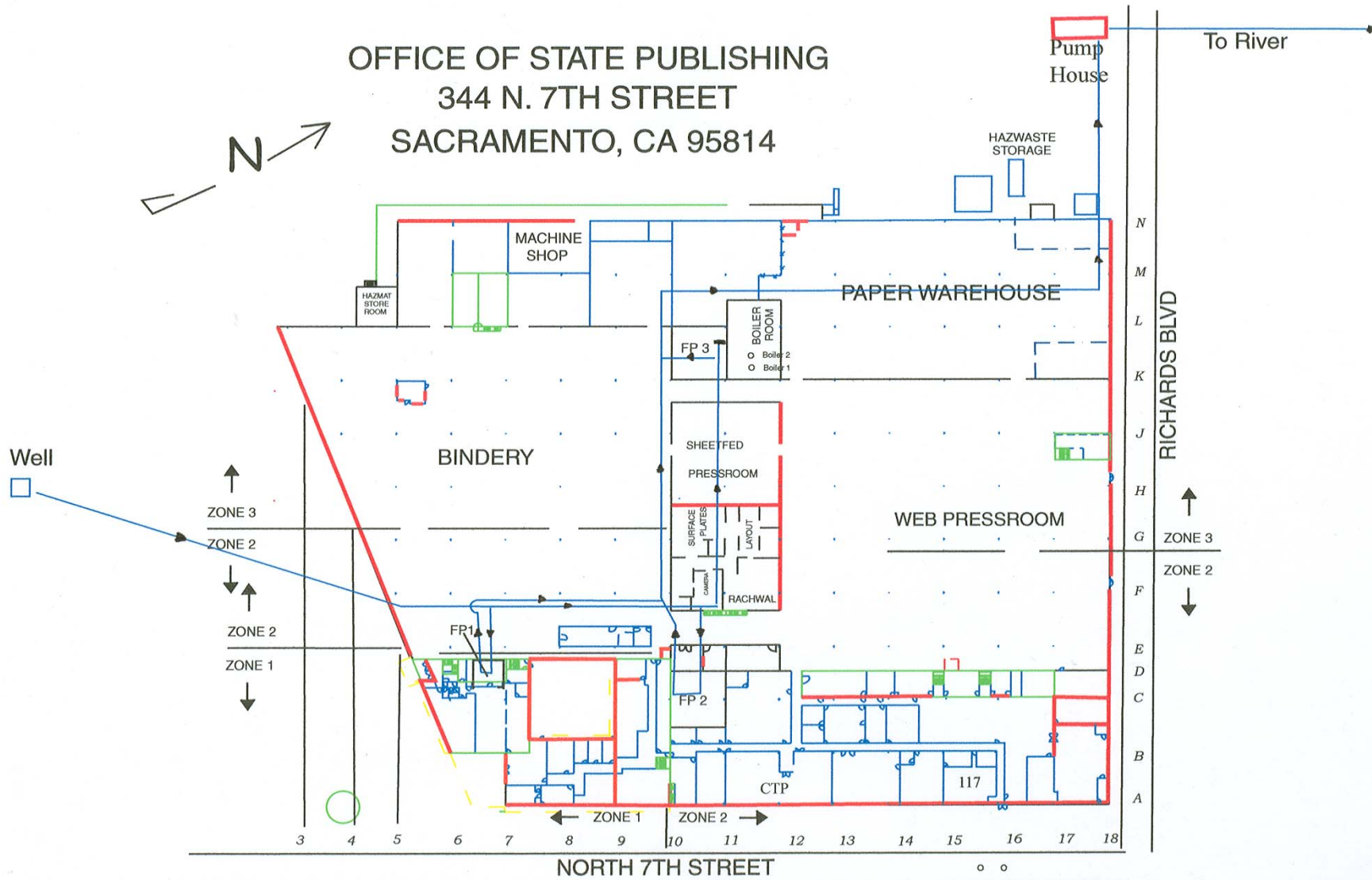
⁸ For constituents with a monitoring frequency less than four times per month assume N=4

⁹No maximum daily effluent limitation (MDEL) is established for a pollutant whose applicable water quality standard is a drinking water Maximum Contaminant Level (MCL) or a recommended threshold based on Agricultural Water Quality.



BUILDING COOLING WATER SYSTEM

Water enters the building via a main distribution line from the ground water well pump. Branches off the main line occur at fan room #1, fan room #2, and fan room #3. The branches carry the water through the heat exchange coils in the fan rooms. The water makes a single pass through the coils and exits via a discharge line that carries the water to the pump house sump. The water is discharged from the sump to the American River.



Constituents to be monitored						
			Controlling Water Quality Criterion for Surface Waters			
CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
VOLATILE ORGANICS						
28	1,1-Dichloroethane	75343	Primary MCL	5	1	EPA 8260B
30	1,1-Dichloroethene	75354	National Toxics Rule	0.057	0.5	EPA 8260B
41	1,1,1-Trichloroethane	71556	Primary MCL	200	2	EPA 8260B
42	1,1,2-Trichloroethane	79005	National Toxics Rule	0.6	0.5	EPA 8260B
37	1,1,2,2-Tetrachloroethane	79345	National Toxics Rule	0.17	0.5	EPA 8260B
75	1,2-Dichlorobenzene	95501	Taste & Odor	10	2	EPA 8260B
29	1,2-Dichloroethane	107062	National Toxics Rule	0.38	0.5	EPA 8260B
	cis-1,2-Dichloroethene	156592	Primary MCL	6	0.5	EPA 8260B
31	1,2-Dichloropropane	78875	Calif. Toxics Rule	0.52	0.5	EPA 8260B
101	1,2,4-Trichlorobenzene	120821	Public Health Goal	5	5	EPA 8260B
76	1,3-Dichlorobenzene	541731	Taste & Odor	10	2	EPA 8260B
32	1,3-Dichloropropene	542756	Primary MCL	0.5	0.5	EPA 8260B
77	1,4-Dichlorobenzene	106467	Primary MCL	5	2	EPA 8260B
17	Acrolein	107028	Aquatic Toxicity	21	5	EPA 8260B
18	Acrylonitrile	107131	National Toxics Rule	0.059	2	EPA 8260B
19	Benzene	71432	Primary MCL	1	0.5	EPA 8260B
20	Bromoform	75252	Calif. Toxics Rule	4.3	2	EPA 8260B
34	Bromomethane	74839	Calif. Toxics Rule	48	2	EPA 8260B
21	Carbon tetrachloride	56235	National Toxics Rule	0.25	0.5	EPA 8260B
22	Chlorobenzene (mono chlorobenzene)	108907	Taste & Odor	50	2	EPA 8260B
24	Chloroethane	75003	Taste & Odor	16	2	EPA 8260B
25	2- Chloroethyl vinyl ether	110758	Aquatic Toxicity	122 (3)	1	EPA 8260B
26	Chloroform	67663	OEHHA Cancer Risk	1.1	0.5	EPA 8260B
35	Chloromethane	74873	USEPA Health Advisory	3	2.0	EPA 8260B
23	Dibromochloromethane	124481	Calif. Toxics Rule	0.41	0.5	EPA 8260B
27	Dichlorobromomethane	75274	Calif. Toxics Rule	0.56	0.5	EPA 8260B
36	Dichloromethane	75092	Calif. Toxics Rule	4.7	2	EPA 8260B
33	Ethylbenzene	100414	Taste & Odor	29	2	EPA 8260B
88	Hexachlorobenzene	118741	Calif. Toxics Rule	0.00075	1	EPA 8260B
89	Hexachlorobutadiene	87683	National Toxics Rule	0.44	1	EPA 8260B
91	Hexachloroethane	67721	National Toxics Rule	1.9	1	EPA 8260B
94	Naphthalene	91203	USEPA IRIS	14	10	EPA 8260B
38	Tetrachloroethene	127184	National Toxics Rule	0.8	0.5	EPA 8260B
39	Toluene	108883	Taste & Odor	42	2	EPA 8260B
40	trans-1,2-Dichloroethylene	156605	Primary MCL	10	1	EPA 8260B
43	Trichloroethene	79016	National Toxics Rule	2.7	2	EPA 8260B
44	Vinyl chloride	75014	Primary MCL	0.5	0.5	EPA 8260B
	Methyl-tert-butyl ether (MTBE)	1634044	Secondary MCL	5	3	EPA 8260B
	Trichlorofluoromethane	75694	Primary MCL	150	5	EPA 8260B
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	Primary MCL	1200	10	EPA 8260B
	Styrene	100425	Taste & Odor	11	0.5	EPA 8260B
	Xylenes	1330207	Taste & Odor	17	0.5	EPA 8260B

			Controlling Water Quality Criterion for Surface Waters			
CTR #	Constituent	CAS Number	Basis	Criterion Concentration (ug/L or noted) (1)	Criterion Quantitation Limit (ug/L or noted)	Suggested Test Methods
SEMI-VOLATILE ORGANICS						
60	1,2-Benzanthracene	56553	Calif. Toxics Rule	0.0044	5	EPA 8270C
85	1,2-Diphenylhydrazine	122667	National Toxics Rule	0.04	1	EPA 8270C
45	2-Chlorophenol	95578	Taste and Odor	0.1	2	EPA 8270C
46	2,4-Dichlorophenol	120832	Taste and Odor	0.3	1	EPA 8270C
47	2,4-Dimethylphenol	105679	Calif. Toxics Rule	540	2	EPA 8270C
49	2,4-Dinitrophenol	51285	National Toxics Rule	70	5	EPA 8270C
82	2,4-Dinitrotoluene	121142	National Toxics Rule	0.11	5	EPA 8270C
55	2,4,6-Trichlorophenol	88062	Taste and Odor	2	10	EPA 8270C
83	2,6-Dinitrotoluene	606202	USEPA IRIS	0.05	5	EPA 8270C
50	2-Nitrophenol	25154557	Aquatic Toxicity	150 (5)	10	EPA 8270C
71	2-Chloronaphthalene	91587	Aquatic Toxicity	1600 (6)	10	EPA 8270C
78	3,3'-Dichlorobenzidine	91941	National Toxics Rule	0.04	5	EPA 8270C
62	3,4-Benzofluoranthene	205992	Calif. Toxics Rule	0.0044	10	EPA 8270C
52	4-Chloro-3-methylphenol	59507	Aquatic Toxicity	30	5	EPA 8270C
48	4,6-Dinitro-2-methylphenol	534521	National Toxics Rule	13.4	10	EPA 8270C
51	4-Nitrophenol	100027	USEPA Health Advisory	60	10	EPA 8270C
69	4-Bromophenyl phenyl ether	101553	Aquatic Toxicity	122	10	EPA 8270C
72	4-Chlorophenyl phenyl ether	7005723	Aquatic Toxicity	122 (3)	5	EPA 8270C
56	Acenaphthene	83329	Taste and Odor	20	1	EPA 8270C
57	Acenaphthylene	208968	No Criteria Available		10	EPA 8270C
58	Anthracene	120127	Calif. Toxics Rule	9,600	10	EPA 8270C
59	Benzidine	92875	National Toxics Rule	0.00012	5	EPA 8270C
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	Calif. Toxics Rule	0.0044	2	EPA 8270C
63	Benzo(g,h,i)perylene	191242	No Criteria Available		5	EPA 8270C
64	Benzo(k)fluoranthene	207089	Calif. Toxics Rule	0.0044	2	EPA 8270C
65	Bis(2-chloroethoxy) methane	111911	No Criteria Available		5	EPA 8270C
66	Bis(2-chloroethyl) ether	111444	National Toxics Rule	0.031	1	EPA 8270C
67	Bis(2-chloroisopropyl) ether	39638329	Aquatic Toxicity	122 (3)	10	EPA 8270C
68	Bis(2-ethylhexyl) phthalate	117817	National Toxics Rule	1.8	5	EPA 8270C
70	Butyl benzyl phthalate	85687	Aquatic Toxicity	3 (7)	10	EPA 8270C
73	Chrysene	218019	Calif. Toxics Rule	0.0044	5	EPA 8270C
81	Di-n-butylphthalate	84742	Aquatic Toxicity	3 (7)	10	EPA 8270C
84	Di-n-octylphthalate	117840	Aquatic Toxicity	3 (7)	10	EPA 8270C
74	Dibenzo(a,h)-anthracene	53703	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
79	Diethyl phthalate	84662	Aquatic Toxicity	3 (7)	2	EPA 8270C
80	Dimethyl phthalate	131113	Aquatic Toxicity	3 (7)	2	EPA 8270C
86	Fluoranthene	206440	Calif. Toxics Rule	300	10	EPA 8270C
87	Fluorene	86737	Calif. Toxics Rule	1300	10	EPA 8270C
90	Hexachlorocyclopentadiene	77474	Taste and Odor	1	5	EPA 8270C
92	Indeno(1,2,3-c,d)pyrene	193395	Calif. Toxics Rule	0.0044	0.05	EPA 8270C
93	Isophorone	78591	National Toxics Rule	8.4	1	EPA 8270C
98	N-Nitrosodiphenylamine	86306	National Toxics Rule	5	1	EPA 8270C
96	N-Nitrosodimethylamine	62759	National Toxics Rule	0.00069	5	EPA 8270C
97	N-Nitrosodi-n-propylamine	621647	Calif. Toxics Rule	0.005	5	EPA 8270C
95	Nitrobenzene	98953	National Toxics Rule	17	10	EPA 8270C
53	Pentachlorophenol	87865	Calif. Toxics Rule	0.28	1	EPA 8270C
99	Phenanthrene	85018	No Criteria Available		5	EPA 8270C
54	Phenol	108952	Taste and Odor	5	1	EPA 8270C
100	Pyrene	129000	Calif. Toxics Rule	960	10	EPA 8270C

			Controlling Water Quality Criterion for Surface Waters			
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INORGANICS						
	Aluminum	7429905	Ambient Water Quality	87	50	EPA 6020/200.8
1	Antimony	7440360	Primary MCL	6	5	EPA 6020/200.8
2	Arsenic	7440382	Ambient Water Quality	0.018	1	EPA 6020/Hydride
15	Asbestos	1332214	National Toxics Rule/ Primary MCL	7 MFL	0.2 MFL >10um	EPA/600/R-93/116(PCM)
	Barium	7440393	Basin Plan Objective	100	100	EPA 6020/200.8
3	Beryllium	7440417	Primary MCL	4	1	EPA 6020/200.8
4	Cadmium	7440439	Public Health Goal	0.07	0.25	EPA 1638/200.8
5a	Chromium (total)	7440473	Primary MCL	50	2	EPA 6020/200.8
5b	Chromium (VI)	18540299	Public Health Goal	0.2	5	EPA 7199/1636
6	Copper	7440508	National Toxics Rule	4.1 (2)	0.5	EPA 6020/200.8
14	Cyanide	57125	National Toxics Rule	5.2	5	EPA 9012A
	Fluoride	7782414	Public Health Goal	1000	100	EPA 300
	Iron	7439896	Secondary MCL	300	100	EPA 6020/200.8
7	Lead	7439921	Calif. Toxics Rule	0.92 (2)	0.5	EPA 1638
8	Mercury	7439976	TMDL Development		0.0005 (11)	EPA 1669/1631
	Manganese	7439965	Secondary MCL/ Basin Plan Objective	50	20	EPA 6020/200.8
9	Nickel	7440020	Calif. Toxics Rule	24 (2)	5	EPA 6020/200.8
10	Selenium	7782492	Calif. Toxics Rule	5 (8)	5	EPA 6020/200.8
11	Silver	7440224	Calif. Toxics Rule	0.71 (2)	1	EPA 6020/200.8
12	Thallium	7440280	National Toxics Rule	1.7	1	EPA 6020/200.8
	Tributyltin	688733	Ambient Water Quality	0.063	0.06	EV-024/025
13	Zinc	7440666	Calif. Toxics Rule/ Basin Plan Objective	54/ 16 (2)	10	EPA 6020/200.8
PESTICIDES - PCBs						
110	4,4'-DDD	72548	Calif. Toxics Rule	0.00083	0.05	EPA 8081A
109	4,4'-DDE	72559	Calif. Toxics Rule	0.00059	0.05	EPA 8081A
108	4,4'-DDT	50293	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
112	alpha-Endosulfan	959988	National Toxics Rule	0.056 (9)	0.02	EPA 8081A
103	alpha-Hexachlorocyclohexane (BHC)	319846	Calif. Toxics Rule	0.0039	0.01	EPA 8081A
	Alachlor	15972608	Primary MCL	2	1	EPA 8081A
102	Aldrin	309002	Calif. Toxics Rule	0.00013	0.005	EPA 8081A
113	beta-Endosulfan	33213659	Calif. Toxics Rule	0.056 (9)	0.01	EPA 8081A
104	beta-Hexachlorocyclohexane	319857	Calif. Toxics Rule	0.014	0.005	EPA 8081A
107	Chlordane	57749	Calif. Toxics Rule	0.00057	0.1	EPA 8081A
106	delta-Hexachlorocyclohexane	319868	No Criteria Available		0.005	EPA 8081A
111	Dieldrin	60571	Calif. Toxics Rule	0.00014	0.01	EPA 8081A
114	Endosulfan sulfate	1031078	Ambient Water Quality	0.056	0.05	EPA 8081A
115	Endrin	72208	Calif. Toxics Rule	0.036	0.01	EPA 8081A
116	Endrin Aldehyde	7421934	Calif. Toxics Rule	0.76	0.01	EPA 8081A
117	Heptachlor	76448	Calif. Toxics Rule	0.00021	0.01	EPA 8081A
118	Heptachlor Epoxide	1024573	Calif. Toxics Rule	0.0001	0.01	EPA 8081A
105	Lindane (gamma-Hexachlorocyclohexane)	58899	Calif. Toxics Rule	0.019	0.02	EPA 8081A
119	PCB-1016	12674112	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
120	PCB-1221	11104282	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
121	PCB-1232	11141165	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
122	PCB-1242	53469219	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082

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123	PCB-1248	12672296	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
124	PCB-1254	11097691	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
125	PCB-1260	11096825	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
126	Toxaphene	8001352	Calif. Toxics Rule	0.0002	0.5	EPA 8081A
	Atrazine	1912249	Public Health Goal	0.15	1	EPA 8141A
	Bentazon	25057890	Primary MCL	18	2	EPA 643/515.2
	Carbofuran	1563662	CDFG Hazard Assess.	0.5	5	EPA 8318
	2,4-D	94757	Primary MCL	70	10	EPA 8151A
	Dalapon	75990	Ambient Water Quality	110	10	EPA 8151A
	1,2-Dibromo-3-chloropropane (DBCP)	96128	Public Health Goal	0.0017	0.01	EPA 8260B
	Di(2-ethylhexyl)adipate	103231	USEPA IRIS	30	5	EPA 8270C
	Dinoseb	88857	Primary MCL	7	2	EPA 8151A
	Diquat	85007	Ambient Water Quality	0.5	4	EPA 8340/549.1/HPLC
	Endothal	145733	Primary MCL	100	45	EPA 548.1
	Ethylene Dibromide	106934	OEHHA Cancer Risk	0.0097	0.02	EPA 8260B/504
	Glyphosate	1071836	Primary MCL	700	25	HPLC/EPA 547
	Methoxychlor	72435	Public Health Goal	30	10	EPA 8081A
	Molinate (Ordram)	2212671	CDFG Hazard Assess.	13	2	EPA 634
	Oxamyl	23135220	Public Health Goal	50	20	EPA 8318/632
	Picloram	1918021	Primary MCL	500	1	EPA 8151A
	Simazine (Princep)	122349	USEPA IRIS	3.4	4	EPA 8141A
	Thiobencarb	28249776	Basin Plan Objective/ Secondary MCL	1	1	HPLC/EPA 639
16	2,3,7,8-TCDD (Dioxin)	1746016	Calif. Toxics Rule	1.30E-08	5.00E-06	EPA 8290 (HRGC) MS
	2,4,5-TP (Silvex)	93765	Ambient Water Quality	10	1	EPA 8151A
	Diazinon	333415	CDFG Hazard Assess.	0.05	0.25	EPA 8141A/GCMS
	Chlorpyrifos	2921882	CDFG Hazard Assess.	0.014	1	EPA 8141A/GCMS

			Controlling Water Quality Criterion for Surface Waters			
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OTHER CONSTITUENTS						
	Ammonia (as N)	7664417	Ambient Water Quality	1500 (4)		EPA 350.1
	Chloride	16887006	Agricultural Use	106,000		EPA 300.0
	Flow			1 CFS		
	Hardness (as CaCO ₃)			5000		EPA 130.2
	Foaming Agents (MBAS)		Secondary MCL	500		SM5540C
	Nitrate (as N)	14797558	Primary MCL	10,000	2,000	EPA 300.0
	Nitrite (as N)	14797650	Primary MCL	1000	400	EPA 300.0
	pH		Basin Plan Objective	6.5-8.5	0.1	EPA 150.1
	Phosphorus, Total (as P)	7723140	USEPA IRIS	0.14		EPA 365.3
	Specific conductance (EC)		Agricultural Use	700 umhos/cm		EPA 120.1
	Sulfate		Secondary MCL	250,000	500	EPA 300.0
	Sulfide (as S)		Taste and Odor	0.029		EPA 376.2
	Sulfite (as SO ₃)		No Criteria Available			SM4500-SO3
	Temperature		Basin Plan Objective	°F		
	Total Dissolved Solids (TDS)		Agricultural Use	450,000		EPA 160.1

FOOTNOTES:

- (1) - The Criterion Concentrations serve only as a point of reference for the selection of the appropriate analytical method. They do not indicate a regulatory decision that the cited concentration is either necessary or sufficient for full protection of beneficial uses. Available technology may require that effluent limits be set lower than these values.
- (2) - Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. Values displayed correspond to a total hardness of 40 mg/L.
- (3) - For haloethers
- (4) - Freshwater aquatic life criteria for ammonia are expressed as a function of pH and temperature of the water body. Values displayed correspond to pH 8.0 and temperature of 22 C.
- (5) - For nitrophenols.
- (6) - For chlorinated naphthalenes.
- (7) - For phthalate esters.
- (8) - Basin Plan objective = 2 ug/L for Salt Slough and specific constructed channels in the Grassland watershed.
- (9) - Criteria for sum of alpha- and beta- forms.
- (10) - Criteria for sum of all PCBs.
- (11) - Mercury monitoring shall utilize "ultra-clean" sampling and analytical methods. These methods include: Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, US EPA; and Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence, US EPA